PUBLIC SAFETY COMMUNICATIONS: ARE THE NEEDS OF OUR FIRST RESPONDERS BEING MET?

HEARING

BEFORE THE

COMMITTEE ON HOMELAND SECURITY

HOUSE OF REPRESENTATIVES

ONE HUNDRED TWELFTH CONGRESS

FIRST SESSION

MARCH 30, 2011

Serial No. 112–13

Printed for the use of the Committee on Homeland Security

Available via the World Wide Web: http://www.gpo.gov/fdsys/

U.S. GOVERNMENT PRINTING OFFICE

72–223 PDF WASHINGTON : 2012

For sale by the Superintendent of Documents, U.S. Government Printing Office
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PUBLIC SAFETY COMMUNICATIONS: ARE THE NEEDS OF OUR FIRST RESPONDERS BEING MET?

Wednesday, March 30, 2011

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON HOMELAND SECURITY,
Washington, DC.

The committee met, pursuant to call, at 10:09 a.m., in Room 311, Cannon House Office Building, Hon. Peter T. King [Chairman of the committee] presiding.

Present: Representatives King, Lungren, Miller, Walberg, Cravaack, Quayle, Marino, Farenthold, Thompson, Jackson Lee, Clarke of New York, Richardson, Christensen, Davis, Richmond, Clarke of Michigan, and Keating.

Also present: Representative Green of Texas.

Chairman KING. Good morning. The Committee on Homeland Security will come to order.

The committee is meeting today to hear testimony on the state of public safety communications in order to identify where progress has been made since the terrorist acts of September 11, 2001, and where shortfalls remain.

We will examine issues such as the reallocation of the D Block, the need for a National interoperable public safety wireless broadband network, the National broadband plan and the extent of coordination between Federal, State, and local partners.

I now recognize myself for an opening statement.

I ask unanimous consent to insert in the record a study which found that assigning D Block to public safety provided at least $3.4 billion by the auction of a spectrum for commercial use. This study is published by the Phoenix Center, an international non-profit 501(c)(3) organization; and also, a statement from the National Emergency Management Association on public safety communications.

Without objection, so ordered.

[The information follows:]

STATEMENTS SUBMITTED FOR THE RECORD BY CHAIRMAN PETER T. KING

POLICY BULLETIN NO. 26, FROM THE PHOENIX CENTER FOR ADVANCED LEGAL & ECONOMIC PUBLIC POLICY STUDIES*

STATEMENT OF JIM MULLEN, DIRECTOR, WASHINGTON MILITARY DEPARTMENT EMERGENCY MANAGEMENT DIVISION, AND PRESIDENT, NATIONAL EMERGENCY MANAGEMENT ASSOCIATION

MARCH 30, 2011

Thank you Chairman King and Ranking Member Thompson for the opportunity to provide this statement for the record regarding public safety communications. This truly is a critical time for our Nation in terms of ensuring first responders have the tools necessary to conduct the business of saving lives and property during a time of crisis.

Established in 1974, NEMA represents the emergency management directors of the 50 States, territories, and the District of Columbia. These professionals are responsible to their Governors for all-hazards emergency preparedness, mitigation, response, and recovery from all emergencies, disasters, and threats to the homeland. NEMA is proud to stand with our colleagues of the Public Safety Alliance and larger public safety community testifying today.

The State emergency management directors of NEMA provide National leadership and expertise in comprehensive emergency management; serve as a vital emergency management information and assistance resource; and advance continuous improvements in emergency management through strategic partnerships. Working arm-in-arm with our public safety partners extends far beyond the emergency management industry. As coordinators of emergency response functions, the State emergency managers recognize the need for Congress to take action immediately.

Even though we are not direct users of the system, many State agencies do utilize aspects of the system such as P–25 trunked and interoperable solutions every day. There are numerous examples in the northeast when 800 MHz or 700 MHz channels were used by multiple agencies to provide communications across all emergency support functions (ESF). The D Block will allow the next extension of this network to include data and video for the same core groups responding and recovering from a disaster. Perhaps one of the most important elements of the Public Safety system is the mission-critical nature of what emergency managers accomplish on a daily basis.

NEMA strongly supports the effort to prevent the auction of the D Block and see that the public safety has all necessary tools to effectively respond to an incident. This Nation-wide broadband network remains critical to ensuring our police, fire, medical, and emergency professionals have access to modern and reliable communications capabilities.

The Federal Communications Commission (FCC) has licensed 10 MHz of radio spectrum in the 700 MHz band to public safety for broadband services. Many National organizations agree this 10 MHz is insufficient to meet public safety's bandwidth needs. Public safety needs more spectrum.

For economic and technical reasons, additional public safety broadband spectrum should be in the same band as the current public safety broadband spectrum. Such spectrum exists and is available. The D Block is two complimentary segments of radio spectrum comprising 10 MHz in the upper 700 MHz spectral band, located directly adjacent to the spectrum currently licensed to public safety for broadband services. The D Block is also the only substantial contiguous spectrum remaining in the 700 MHz band yet to be licensed, so no licensed users would be displaced. Should public safety be forced to build an interoperable network in two separate bands, additional fiscal challenges would result due to the need of new technologies to bridge the disparate systems required to fulfill the comparable need of the singular D Block.

Under current statute, the FCC is required to auction the D Block spectrum for commercial services. Once auctioned, the D Block would be encumbered and out of public safety's reach for the foreseeable future; in practical effect, it would be gone forever. To prevent such an auction, NEMA has joined the PSA and numerous other organizations in urging Congress to pass legislation allocating the D Block to public

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*The document has been retained in committee files and is also available at *http://www.phoenix-center.org/PolicyBulletin/PCPB26Final.pdf*.

safety and providing a funding mechanism to aid in the build-out and operation of a Nation-wide broadband network. The PSA includes associations representing police, sheriffs, fire chiefs, emergency medical personnel, and emergency management.

NEMA remains appreciative of Chairman King, Ranking Member Thompson, and the growing list of cosponsors for H.R. 607, the *Broadband for First Responders Act of 2011.* We were also thankful for the President's fiscal year 2012 budget which provides $10 billion to build and fund the network using the proceeds from the auction of other spectrum. Under these "incentive auctions," television broadcasters would relinquish their rights to certain spectrum in exchange for a portion of the proceeds when the spectrum is auctioned.

Fortunately, Congress has the means by which to ensure this asset is available thereby securing the lives of millions of Americans. This network would give public safety invaluable data services such as photos, diagrams, and video, an infrastructure built to withstand natural hazards, and Nation-wide coverage. By standing with the PSA, NEMA joins countless organizations in supporting this effort and is pleased to fully support Congress directing the FCC to allocate the D Block spectrum to public safety.

Again, I thank you for the opportunity to submit this statement for the record on this critical issue. As a member of the Public Safety Alliance, NEMA is proud to stand with our colleagues in public safety as we work to ensure the allocation of the D Block. We look forward to working with your committee as this issue moves forward and hope you will utilize the expertise of our members should the need arise.

Chairman KING. Yes.

Mr. THOMPSON. I guess going forward, if we could, on the Phoenix study you just referenced——

Chairman KING. Yes.

Mr. THOMPSON [continuing]. We wanted to get a little more on it. But I will talk to you a little about it a little later.

But we have no objection.

Chairman KING. Thank you.

I thank the Ranking Member.

I would welcome everyone here this morning to discuss the issue of public safety communications. I also want to thank the witnesses, and thank you for giving of your valuable time to testify before us on this very, very vital issue.

As we all know, one of the many tragedies of 9/11 was the reality we saw that communications did not work anywhere near the extent to which they should have, and they did not meet the needs of that day.

Now we are approaching the 10th anniversary of September 11, and yet, first responders across the Nation face many of the same problems that existed 10 years ago.

This morning, Governor Kean and former Chairman Hamilton of the 9/11 Commission have testified before the Senate Homeland Security Committee on the progress we have made and what needs to be done to secure our Nation. They are the co-chairs of the 9/11 Commission, and that was charted to prepare a full and complete account of the circumstances surrounding the September 11, 2001, terrorist attacks.

The commission was also mandated to provide recommendations designed to guard against future attacks. One of their main recommendations, and probably the one that—one of the few that remains almost entirely unfilled—was, and I quote—"Congress should support pending legislation which provides the expedited and increased assignment of radio spectrum for public safety purposes."

That was issued in the summer of 2004, almost 7 years ago. So, it is almost 10 years since September 11, and almost 7 years since the 9/11 Commission made their recommendations.

As we approach the 10th anniversary of September 11, public safety must be allocated sufficient spectrum, so that a National interoperable public safety wireless broadband network can finally be built.

Law enforcement needs access to streaming video and surveillance networks to identify known terrorists through the use of video analytics, criminal records, automated license plate readers and biometric technologies, including mobile fingerprint and iris identification, which will also help to prevent and respond to crimes.

Fire services need access to building blueprints, help monitoring sensors and GPS tracking systems to save lives. Emergency medical services need access to telemedicine and high-resolution video to reduce the time it takes to deliver medical services at the scene of an incident.

To meet this goal, I have reintroduced the Broadband for First Responders Act of 2011. I am very proud that I have been joined in this effort by Ranking Member Thompson and 11 other colleagues, including seven Members of this committee.

I would say the fact that Chairman—that the former Chairman and current Ranking—you will always be Chairman—Ranking Member Thompson and I have such strong support on the committee, and that we are standing together, I think demonstrates the type of bipartisan support we need.

Obviously, there are issues we are going to have philosophical differences on, partisan differences on, political differences on. The fact is, this is an issue where we are standing together as one, and we will combine our efforts to do all we can.

In addition to that, the administration also supports the reallocation of the D Block to public safety. On February 10, President Obama announced his plan to reallocate the D Block and provide funding for the network. He also mentioned it in his State of the Union speech.

At our hearing on February 17, sitting right there, Secretary Napolitano gave us her assurances that she would work with the committee on moving this issue forward.

I know that in the Senate, Senator McCain, Senator Lieberman, Senator Collins, Senator Rockefeller all are supporting either this legislation or legislation very comparable to it.

So, I think this is the time, this is the moment where we can move forward and, hopefully, adopt this in both houses and have it signed by the President prior to September 11.

Now, for those who say we cannot afford to pay it now, I say we cannot afford not to. No matter how we look at it, whether we are talking about the potential loss of human life, whether we are talking about the horrific economic consequences that would result, the fact is, reallocating D Block is absolutely essential.

It is not a Republican issue. It is not a Democratic issue. It is an American issue.

Again, in closing my remarks, I want to thank all the witnesses for being here. I want to thank the Ranking Member for standing as one on this vital issue.

With that, I am proud to recognize the Ranking Member, the gentleman from Mississippi, Mr. Thompson.

Mr. THOMPSON. Thank you very much, Mr. Chairman.

I would like to ask unanimous consent that Congressman Green, a former Member of this committee, be allowed to sit on the panel for the hearing today.

Chairman KING. Reserving the right to object—and I will not—I would just say that the gentleman from Texas should consider coming back to the committee. We have some vacancies here. I will always welcome his quiet, very shy style on the committee.

So, with that, I withdraw my objection.

Mr. THOMPSON. Thank you very much.

Thank you again, Chairman, for holding today's hearing on emergency communication for first responders.

In the 110th and 111th Congresses, this committee held four oversight hearings on emergency communications. We established a strong record on the importance of emergency communication and interoperability in assuring the security of the Nation in times of natural disaster, terrorist attack, and catastrophic events.

Because of the need for first responders to be well-equipped and able to communicate effectively, I am pleased to be an original cosponsor of the Broadband for First Responders Act of 2011, as introduced by Chairman King.

This bill will strengthen the Nation's emergency communications systems by reallocating the D Block of 700 MHz wireless broadband spectrum for public safety use and fund the creation of a National network.

On the same day this bill was introduced, President Obama announced his support for reallocation of D Block to the public safety.

Since its inception, this committee has enjoyed bipartisan support of efforts to improve emergency communications. I would hope that assuring state-of-the-art communications for our first responders would be an area of bipartisan agreement throughout Congress.

Unfortunately, even at this issue, bipartisan support is not to be had. I am told that Chairman King's bill, which was referred solely to the Energy and Commerce Committee, has met with opposition from the Republican leadership on the committee.

Instead of moving forward with legislation to reallocate D Block for first responders, the Chairman of Energy and Commerce has indicated his preference for selling the publicly held spectrum to private interests and using the proceeds of the sale to reduce the deficit. While deficit reduction is a worthy goal, we cannot afford to be penny-wise and pound-foolish.

Not only will the allocation of D Block create savings by streamlining communications and creating a Nation-wide interoperable network, but because it will increase the effectiveness of disaster response, countless lives will be saved.

The 9/11 Commission realized that emergency communications is critical for ensuring public safety and effective response to disasters. The Commission specifically recommended Congress support

legislation providing for the expedited and increased assignment of radio spectrum for public safety purposes.

The necessity of emergency communication effectiveness was also recognized by the House of Representatives Select Bipartisan Committee on Hurricane Katrina. This select committee, formed by Speaker Hastert and chaired by Representative Tom Davis—both Republicans—found that due to storm impact and flooding, more than 2,000 emergency personnel were forced to communicate in single-channel mode, radio-to-radio, utilizing only the three neutral aid frequencies.

To date, the FCC has not moved forward with efforts to auction D Block. However, the FCC retains the right to conduct this auction.

I hope today's hearing will convince the FCC and the Chairman of Energy and Commerce of the importance of public safety communications and the need to reallocate, not auction, D Block.

Mr. Chairman, I thank you for holding this hearing, and I look forward to the hearing and the testimony from the witnesses.

Chairman KING. I thank the Ranking Member.

I would remind other Members of the committee that opening statements may be submitted for the record.

As I mentioned before, we are pleased to have a distinguished panel of witnesses before us today, on what the Ranking Member and I agree is a vitally important topic.

Chief Jack Parow is the president and chairman of the board of the International Association of Fire Chiefs. He is a 33-year veteran of the fire service, most recently serving Chelmsford, Massachusetts.

Bill Carrow currently serves as the president of the Association of Public-Safety Communications Officials, and for 11 years he was the communications chief of the Delaware State Police, where he focused on interoperability.

Sheriff Paul Fitzgerald has served as sheriff of Story County, Iowa, since 1993. Sheriff Fitzgerald was the first vice president of the National Sheriffs' Association and serves as the association's representative to the Public Safety Alliance.

Greg Simay is an assistant general manager of Burbank Water and Power, a municipal utility that works with Burbank's local police and fire departments. For 23 years, Mr. Simay ran the power delivery division, which included responsibility for the city's radio and phone systems.

Now, the Chair recognizes Chief Parow.

STATEMENT OF CHIEF JOHN E. "JACK" PAROW (RET.), PRESIDENT AND CHAIRMAN OF THE BOARD, INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

Chief PAROW. Good morning, Chairman King, Ranking Member Thompson, and Members of the committee.

I am Jack Parow, recently retired fire chief from Chelmsford, MA Fire and Rescue, and serve as president and chairman of the board of the International Association of Fire Chiefs.

I testify today in support of H.R. 607. I am grateful for the efforts of this committee to keep this issue foremost in Congressional consideration.

This legislation is needed to enable fire, EMS, and law enforcement to reach our highest goals—construction of a Nation-wide public safety wireless interoperable broadband network.

Our business is incident management and the fundamentals are command and control. These elements are not possible without sufficient communications capability.

For too long, we have had urgent need to improve public safety communications. This was acknowledged both in the 9/11 Commission report and Katrina reports, which summarize the deficiencies of the response in those catastrophic events.

To bring public safety communications into the 21st Century, a National architecture of public safety communications is required. To achieve a Nation-wide public safety wireless broadband network, key elements need to be put in place.

First, the network must have sufficient capacity. The 10 MHz of D Block spectrum currently slated for FCC auction must be added to the 10 MHz of spectrum already licensed to public safety.

To maximize the potential of new 4G technology, a configuration of 20 MHz is needed. The currently licensed public safety spectrum abuts the D Block and is perfect for public safety. With this configuration only can public safety be assured that it will have the ability to build the network it needs for today and into the future.

We have a one-time opportunity, a one chance to get this right.

Second, the network must be under public safety control. Local control of the network by public safety agencies is critical. A single licensee utilizing a single technology with sufficient capacity will ensure Nation-wide interoperability and allow us to effectively manage day-to-day operations along with those of major incidents.

We cannot have commercial providers deciding what is or what is not an emergency, and what is and what is not a priority. Public safety transmissions must go through without delay.

Network control will give public safety certainty that it will have full, immediate, preemptive priority over its spectrum on a when-needed basis.

This is a public safety imperative.

Third, the network must be mission-critical from the outset. In the beginning, this system will handle only data and video. At some future date, maybe years from now, we believe that there will be a transition to mission-critical voice. This will occur when technology becomes available, when public safety has confidence in it, and when it is cost-affordable.

The key elements of mission-critical are: The network must be hardened to public safety requirements; the public safety mission-critical voice network must have the ability to broadcast and receive one-to-one and one-to-many.

It must also have the ability to broadcast and receive without the network infrastructure being operative. This is a command-and-control absolute, the very essence of public safety communication.

The network must also have back-up capabilities in the event of network loss.

Fourth, funding is important for the construction of public safety broadband. The broadband network needed by public safety cannot be built without Federal funding support. H.R. 607 recognizes this fact and offers a solution.

This is welcome and very necessary.

Mr. Chairman, the IAFC wholeheartedly supports H.R. 607. This bill provides public safety with the spectrum and funding to begin the hard work of constructing a Nation-wide public safety broadband network. Your bill is our vehicle to finally securing this critical resource.

The 10th anniversary of the tragic events of September 11, 2001, are little more than 5 months away. We urgently need to continue to move forward on a plan to make the vision of public safety broadband network a reality.

I am available to respond to questions. Thank you.

[The statement of Chief Parow follows:]

PREPARED STATEMENT OF CHIEF JOHN E. "JACK" PAROW

MARCH 30, 2011

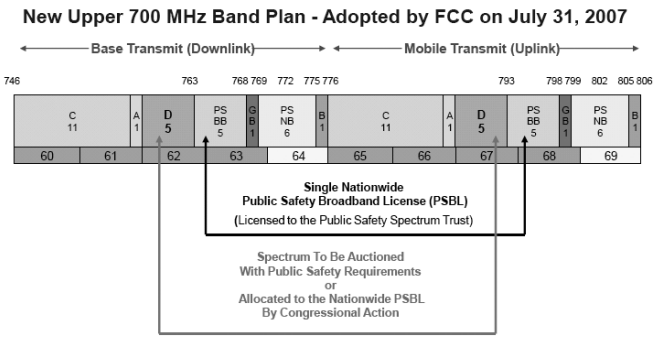
Good morning Chairman King, Ranking Minority Member Thompson, and Members of the committee. I am Jack Parow, recently retired chief of the Chelmsford (MA) Fire Rescue Department and president and chairman of the board of the International Association of Fire Chiefs (IAFC) on whose behalf I appear. My organization represents the leadership of over 1.2 million firefighters and emergency responders. IAFC members are the world's leading experts in firefighting, emergency medical services, terrorism response, hazardous materials spills, natural disasters, search and rescue, and public safety policy. As far back as 1873, the IAFC has provided a forum for members to exchange ideas and find the latest products and services available to first responders.

I testify today in support of H.R. 607 (Broadband for First Responders Act of 2011). Currently, this legislation has 11 cosponsors and is bipartisan. Obviously, this is not part of a political agenda. It is legislation to benefit public safety agencies and the citizens whom they serve and protect. We are grateful for the efforts of this committee to keep this issue foremost in Congressional consideration. Public safety is an integral part of this Nation's homeland security. Local fire, emergency medical services (EMS) and law enforcement constitute the first response to incidents both small and large—natural, accidental, and illicit. This legislation is needed to enable fire, EMS, and law enforcement to reach our highest goal—construction of a Nationwide public safety wireless interoperable broadband network.

For too long we have had an urgent need to improve public safety communications. Our business is incident management and the fundamentals here are command and control. These elements are not possible without sufficient communications capability. This was acknowledged in both the 9/11 Commission and Katrina reports which summarized the deficiencies of response to those catastrophic events.

Today, public safety communications is served by Land Mobile Radio (LMR) of which there are some 55,000 separate agencies licensed to broadcast. These LMR radio systems are licensed over six or more bands of radio frequencies. Each public safety licensee can operate only in its own geographic area so as not to interfere with a licensee in another jurisdiction on the same frequency. Over the past 50 years, the Federal Communications Commission (FCC) has provided thin slices of spectrum for public safety as each frequency band became available. This arrangement has led to a patchwork of radio systems across the country that are mostly not interoperable which makes it difficult and expensive for agencies in the same or nearby jurisdictions to have interoperability. To solve this problem and promote Nation-wide interoperability, a National architecture for public safety communications is required to bring public safety communications into the 21st Century. To achieve a Nation-wide public safety wireless broadband network, key elements need to be in place.

First, the network must have sufficient capacity. To achieve a Nation-wide public safety broadband network—connectivity coast to coast, border to border—10 MHz of D Block spectrum, currently slated for FCC auction, must be added to our 10 MHz of spectrum already licensed to public safety. That would give us a 20 MHz network. Public safety, under FCC regulation, is required to use Long Term Evolution as its broadband technology. To maximize the potential of this technology, a configuration of 20 MHz is needed. As you can see on the spectrum chart below, the currently licensed public safety spectrum abuts the D Block and is perfect for public safety.



With this configuration only, not with any other, can public safety be assured that it will have the ability to build the network it needs now and into the future. H.R. 607 can do this for us. Here we have a one-time opportunity, one chance to get it right.

Secondly, the network must be under public safety control. Local control of the network by public safety agencies is critical. A single licensee utilizing a single technology with sufficient spectral capacity will ensure Nation-wide interoperability and allow us to effectively manage day-to-day operations, along with major incidents. We cannot have commercial providers deciding what is or is not an emergency or what is the priority. Public safety transmissions must go through without delay. The lives of our firefighters and medics depend on this necessity. A "no service" signal is not accepted in emergency operations.

Public safety expects to enter into public-private partnerships. We will work with State, county, and local governmental agencies, Federal partners, electric and gas utilities, and others who respond to emergencies such as highway and water agencies. However, public safety must have control over the operation of the network in real time. Network control will give public safety certainty that it will have full, immediate, preemptive priority over its spectrum on a when-needed basis. This is a public safety imperative.

Third, the network must be mission-critical at the outset. In the beginning, this system will handle only data and video. At some future time—years from now—we believe there will be a transition to mission-critical voice. We all need to take a long-term view which means starting with sufficient spectrum so that we will have the ability to migrate to mission-critical voice in the future. This will occur when the technology becomes available, when public safety has confidence in it, and when its cost is affordable. Here are the key elements of "mission-critical":

- The network must be hardened to public safety requirements. This means towers must be able to withstand elements that might disable them. Towers in hurricane-prone areas and tornado alleys must be designed accordingly. Back-up electrical power must be available 24/7. Redundancy is necessary.
- The public safety mission-critical voice network must have the ability to broadcast and receive "one-to-one" and "one-to-many." It must also have the ability to broadcast and receive without the network infrastructure being operative. This is called the "talk around" mode—also known as simplex. This is a command-and-control absolute. You know very well that we operate under extremely hazardous conditions. If for any reason the network cannot provide connectivity, then we need the capability to communicate without the network. This means communicating in the simplex mode. Herein lies the very essence of public safety communications.
- The network must have back-up capabilities in the event of network loss. We envision satellite capability when a tower is disabled or other crippling malfunction occurs in the network. Satellites also can cover remote areas that do not have terrestrial broadcast facilities. Our mission is geography-oriented whereas commercial carriers are population-oriented.

And, fourth, funding is important for the construction of a public safety broadband network. State and local government budgets are challenged. The broadband network needed by public safety cannot be built without Federal funding support. H.R. 607 recognizes this fact and offers a solution. According to the proposed legislation,

both a Public Safety Interoperable Broadband Network Construction Fund and a Public Safety Interoperable Broadband Network Maintenance and Operation Fund would be established in the Treasury of the United States. The Secretary of Homeland Security would be required to establish a Construction Grant Program and to administer a Maintenance and Operation Reimbursement Program. All of this is welcome and necessary.

We cannot underestimate how this public safety broadband network will revolutionize the fire and emergency medical services. For example, the network could provide live video to provide instantaneous situational awareness for mass casualty incidents, major hazardous materials spills, and real-time situational awareness for incident command as well as elected officials and other decision makers. In the area of emergency medical services, we expect digital imaging, portable EKGs, portable ultrasounds, and field blood work with a direct link to the hospital's emergency department. This would put a virtual physician in the back of the ambulance with the Emergency Medical Technician to expedite the proper life-saving treatment en route to the hospital. These types of applications for fire and EMS are only possible with broadband capability.

One area of the bill which will need attention as the legislation moves forward is Section 207, which mandates migration of public safety entities in the 420 to 512 MHz band to 700/800 MHz frequencies. We understand the intent of this provision is to achieve long-term interoperability by consolidating band use by public safety. The IAFC supports planned migration to 700/800 MHz frequencies but is concerned with inclusion of mandatory time frames in which to achieve it.

Mr. Chairman, the IAFC wholeheartedly supports H.R. 607. This bill provides public safety with the spectrum and funding to begin the hard work of constructing a Nation-wide public safety broadband network. H.R. 607 is our vehicle for finally securing this critical resource, and we want to work with you and your colleagues in the House of Representatives to further refine this legislation in order to enact the best possible bill into law. The 10th anniversary of the tragic events of September 11, 2001 is little more than 5 months away. Thus, we urgently need to continue to move forward on a plan to make the vision of a public safety broadband network a reality. Thank you for your personal commitment and leadership on this critical issue. I am available to respond to questions.

Chairman KING. Thank you, Chief. I think you are the only witness we ever had who finished exactly on time. You must have an inner clock or something. That was great.

I just want to thank you and your organization for the support you have given us. If you would continue that over the next few months, it would be very helpful.

Now, President Carrow is recognized for 5 minutes.

STATEMENT OF WILLIAM "BILL" D. CARROW, PRESIDENT, THE ASSOCIATION OF PUBLIC-SAFETY COMMUNICATIONS OFFICIALS (APCO) INTERNATIONAL

Mr. CARROW. Good morning. Chairman King, Ranking Member Thompson and other Members of the committee, thank you for the opportunity to be here with you today.

It is my deep personal and professional honor to come before this committee on this issue at this time, just a little more than 5 months ahead of the 10-year anniversary of the tragic events of September 11, 2001. The incidents of that day, now recognized around the world, simply known as 9/11, have forever changed us as a people.

I come before the committee today as president of APCO International, the Association of Public-Safety Communications Officials. My professional position, I have served for 31 years with the Delaware State Police as chief of communications.

So, I know a little bit about what we have accomplished in our State within our operability with radio. But what I would like to

talk about is interoperability that is going to be needed in the broadband spectrum.

APCO International is working in partnership with nine of the leading public safety associations to create consensus on public safety broadband legislation through its Public Safety Alliance, the PSA program, which includes two organizations represented by my fellow witnesses that are here this morning.

The big seven State and local associations and approximately 3 dozen additional associations and industry partners, which represent a wide range of professionals and stakeholders, are in support of the PSA's position to allocate the D Block to public safety. Together, the alliance and supporting organizations represent over 2 million rank-and-file public safety personnel, communication workers, public technologists, State, county, and local elected and appointed officials and employees.

Since 9/11, the people and technology barriers have been greatly reduced, but time and resource barriers are still very much present today. The looming likelihood of disasters reaching our shores, such as those recently occurring in Japan and New Zealand, should lead us towards an ever sense of urgency.

Public safety and first responders are more united than ever in their endeavors to make America safer. We are better organized, more cooperative, less driven by ego and turf than before 9/11.

While there is more work to be done, public safety is seeking greater strides in developing, adopting, and implementing new procedures and processes across agencies and jurisdictions. To say it simply, we need your help.

As the title of this hearing suggests, coupling with your legislation, Chairman King and Ranking Member Thompson, the needs of first responders are not being met.

Mr. Chairman, the truth is, it is better than it was before 9/11, but it is still not nearly good enough for what first responders not only need, but what they deserve.

We now have young people coming into public safety that use technology on a daily basis in their iPhones and smart phones and different gadgetry that surpasses anything that is available to public safety today. This is unacceptable and simply cannot stand.

Public safety professionals know that more spectrum is needed for the broadband network that will provide a higher level of scrutiny, security, redundancy, priority access, roaming, geographic coverage and, more importantly, local control to meet the needs of first responders.

The additional spectrum will also allow for partnerships with carriers and private industry partners to reduce cost and assist with the commercial build-out.

The recent study by the Phoenix Center concluded that the assignment of the D Block to public safety is a unique opportunity to give first responders exactly what they need to get the job done.

Chairman King, Ranking Member Thompson, on behalf of APCO and the Public Safety Alliance, I would like to thank you for recognizing public safety is still very much an outstanding and priority need for more radio spectrum and Federal funding to help us develop a Nation-wide interoperable public safety broadband network.

Not only does this legislation fulfill a remaining unmet recommendation of the 9/11 Commission, but it also provides first responders with what is needed in the field every day, and especially during critical incidents of that magnitude.

Indeed, the 9/11 co-chairmen are currently testifying before Senator Lieberman's committee, and understand that their statements include a very direct and urgent call for Congress to enact legislation to allocate the D Block to public safety with necessary funding.

Again, I thank you for your time, consideration, and shared concern for our Nation's safety and security, for everyday emergencies and crime, to large-scale incidents and terrorism.

As the leading association for public safety technology professionals, we at APCO International share your unwavering belief that technology, when currently governed, tested, and applied and managed properly, will be cost-effective and will also help us realize significant progress in our Nation's economic development, public safety delivery, and National security.

I am happy to answer any questions that you may have at this time.

[The statement of Mr. Carrow follows:]

STATEMENT OF WILLIAM "BILL" D. CARROW

MARCH 30, 2011

Chairman King, Ranking Member Thompson, and other Members of the committee, thank you for the opportunity to be here with you today. It is my deep personal and professional honor to come before this committee on this issue at this time, just a little more than 5 months ahead of the 10-year anniversary of the tragic events of September 11, 2001. The incidents of that day, now recognized around the world as 9/11, have forever changed us as a people, as Americans, in public safety, and as first responders.

I come before the committee today as President of the Association of Public-Safety Communications Officials, International, also known as APCO International. My professional position is that of Communications Chief for the Delaware State Police, where I oversee a State-wide system of emergency and routine communications functions and services. I have served in the field of public safety communications for over 32 years to date. In that time, we in public safety, and in State and local public service, have seen both incredible technological advances and the persistence of long-term, intractable barriers to progress. Since 9/11, the "people" and "technology" barriers have been greatly reduced, but time and resource barriers are still very much present. The looming likelihood of disasters reaching our shores, such as those that have so tragically occurred recently in Japan, New Zealand, and elsewhere in the world, should prompt us to ever-greater urgency in ensuring that full and comprehensive interoperability is indeed the case across all public safety functions and agencies.

Though it has been almost 10 years, we shall not forget the loss of those brave men and women who entered burning, crumbling buildings when others fled, who stood below helping the fleeing, the injured, and the dead, and who went in afterward and began to clean up, continued to search for survivors, and began to try to restore a sense of calm and order in the midst of the chaos. We are still paying the price for the events of that day, in the health care costs of those who responded and who are now suffering, in the lives of our equally brave soldiers and service members who have fought, suffered injuries—and many have died in Iraq and Afghanistan—and we are paying the price as well for the stepped up vigilance, protection, and security that America must provide to meet the challenges that threaten our citizens, our families, our friends, our neighbors, and our children. None of us picked this battle. But, we all must step up to meet and exceed this challenge.

Good things must come out of this, too, and you here in Washington, DC need to hear the good news as well as the bad, the successes as well as the shortcomings. So, let me tell you that public safety and first responders are more united than ever in their endeavors to make America safer. We are better organized, more cooperative, less driven by ego and turf than before 9/11. Now, its not perfect, of course,

among fire and rescue services, law enforcement, emergency medical services, technology officers (both in public safety and across general Government), and civilians and sworn; the badges and the suits. There is considerably less risk today that a turf battle or a personality conflict among professionals will get in the way of getting to an answer and getting the job done, and there is little tolerance for this when it raises its ugly head. While there is more work to be done, and resources are always a problem, especially in the current economic and budgetary environment, we in public safety are seeing great strides in developing, adopting, and implementing new procedures, planning processes, exercise practices, professional standards and cooperative operating agreements across agencies and jurisdictions at every level of government, and increasingly extending to the private sector. And a certain degree of it was and is about changing attitudes, appreciating and considering different professional perspectives and priorities, and understanding the importance of working together to meet the new challenges. So, there is good news that we can come and report to you today.

Now, to build on that momentum, we also need your help. As the title of this hearing suggests, coupled with your legislation Mr. Chairman, the needs of first responders are not being met. Mr. Chairman, after 32 years, and being a very positive person, that is a very hard comment for me to make in public. But the truth is, it's better than it was before 9/11, but it's still not nearly good enough for what our first responders not only need, but also deserve from us. We now have educated young people coming to the public safety profession with daily experience in using wireless devices and technology that provides them with the independence to seek and acquire information in real-time for all of their life activities. Yet they cannot do so in a mission-critical, public safety-grade environment professionally. This is unacceptable and cannot stand. We have investigators at crime scenes still using pads and paper to log in critical evidence and hopefully get it into digital form in a searchable database sometime later. We send firefighters into burning buildings without any schematics beforehand even as the capability is there to access all this information wirelessly. We respond to emergencies in schools equipped with fixed video, but cannot access and share that video remotely or wirelessly in a secure environment today. These are not just things that we need during emergencies and large-scale incidents. We need these capabilities for public safety and first responders every day for routine activities and basic response. How many lives could we save if we could provide EMS and emergency room doctors with video capabilities to see injuries and provide guidance at the scene and while in transport to medical facilities? How much savings could we realize from reducing the amount of helicopter medical dispatches that are proven unnecessary after the fact because medical staff did not have a real-time view of the injuries suffered in a car accident on our Nation's roadways? Public safety professionals know that sufficient spectrum for broadband, that leverages commercial build-out of broadband infrastructure, but provides a higher level of security, redundancy, priority access, control, secure roaming and geographic coverage—what we refer to as mission-critical, public safety grade network capabilities—will allow us to meet these unmet needs.

Chairman King, Ranking Member Thompson, this is why I am here today. To thank you for recognizing public safety's still outstanding and priority need for more radio spectrum and Federal funding to help us develop a Nation-wide interoperable public safety broadband network, as expressed in your legislation, H.R. 607; the Broadband for First Responders Act of 2011. Not only does this legislation fulfill a remaining unmet recommendation of the 9/11 Commission Report, to provide public safety with the ability to establish seamless interoperability throughout the United States. It has the great promise of ultimately providing first responders with what is needed in the field every day and during critical incidents. You need to know that the Nation's public safety officials, to include law enforcement, fire, and EMS, and all first responders are united in their top priority for realizing the enactment of legislation into law that finally makes real this Nation-wide, interoperable, mission-critical, public safety broadband network capability.

APCO International coordinates the consensus development of nine of the Nation's major National public safety associations on public safety broadband legislation through its Public Safety Alliance (PSA) Program. Specifically, the PSA includes the International Association of Chiefs of Police, the International Association of Fire Chiefs, the National Emergency Management Association, the National Sheriffs Association, the Major Cities Chiefs Association, the Major County Sheriffs Association, the National Association of State Emergency Medical Services Organization, the Metropolitan Fire Chiefs Association and APCO International itself. Another approximately 3 dozen National associations representing a wide range of professionals and stakeholders are in support of the PSA's position to allocate the D Block to public safety and help fund the build out and sustainment of this Nation-

wide network. Those supporting organizations include representation of over 2 million rank-and-file public safety personnel, communications workers, public technologists, State, county, and local elected and appointed officials and employees, and many others. The "Big 7" National associations representing State and local government are closely aligned with the PSA and its supporting organizations, and though their previous opposition was widely reported, the National Fraternal Order of Police and National Emergency Number Association have both joined with the rest of public safety in supporting funding and allocation.

For the benefit of those of you that do not know, APCO International was established in 1935 and is the largest public safety communications organization in North America, representing nearly 16,000 members worldwide, most of whom are State or local government employees—from the highest management levels to the frontline 9–1–1 call taker, and everyone in between—the professionals who build, supply, manage, and operate communications systems and facilities for police, fire, emergency medical services and other State and local government public safety agencies. APCO serves the needs of more than 200,000 professionals in the public safety communications industry with training, frequency coordination, engineering, licensing, advocacy, and networking services and opportunities. APCO International is the largest FCC-certified frequency coordinator for Part 90, public safety pool channels, and appears regularly before the FCC, Congress, and a wide range of Federal and international entities on a variety of public safety communications issues. APCO includes law enforcement, fire, EMS, chief technology and information officers, and other public safety-related professionals, and is primarily composed of experienced, front-line technical experts that are charged with planning, implementing, and overseeing current communications systems in the field, and is solely focused on the area of public safety communications (including voice, data, video, radio, and information technologies). Thus, we have long provided an informed safe haven for public safety officials to research, discuss, debate, and come to a consensus on the issues of significance to our profession.

Again, I thank you for your time, consideration, and shared concern for our Nation's safety and security from everyday emergencies and crime, to large-scale incidents and terrorism. As the leading association for public safety technology professionals, we at APCO International share your unwavering belief that technology, when correctly governed, tested, and applied, and when implemented and managed in a cost-effective manner, will help us to realize significant progress in our Nation's economic development, public safety delivery, and National security. I am happy to answer any questions that you may have at this time.

Chairman KING. Thank you, President Carrow.

I now recognize Sheriff Fitzgerald to testify.

Thank you, Sheriff.

STATEMENT OF PAUL H. FITZGERALD, SHERIFF, AND FIRST VICE PRESIDENT, NATIONAL SHERIFFS' ASSOCIATION

Sheriff FITZGERALD. Good morning, Chairman King, Ranking Member Thompson, and Members of the committee.

My name is Paul Fitzgerald, and I currently serve as the sheriff of Story County, Iowa, and as the first vice president of the National Sheriffs' Association. The National Sheriffs' Association represents the 3,083 elected sheriffs across the country and more than 20,000 law enforcement professionals, making us one of the largest law enforcement associations in the Nation.

I am pleased to have this opportunity to appear before you today, and discuss the critical issues of public safety communications and whether our current communication needs are being met. Public safety communications has been a heavily debated and discussed issue over the last decade, particularly regarding the issue of interoperability among the Nation's first responders.

Since the tragic events of September 11, 2001, there has been a significant need among our Nation's first responders to build and implement a robust Nation-wide public safety interoperable mobile broadband network that will improve our Nation's homeland secu-

rity and provide first responders with new interoperable communications technologies that are urgently needed.

It is a need that was recognized and recommended by the 9/11 Commission, and it is the only recommendation from the commission that has yet to be implemented. The purpose of this hearing is to examine whether the needs of the first responder communications are being met.

Mr. Chairman, simply stated, public safety currently lacks the ability to interoperably communicate amongst each other. There must be a solution to this critical problem, and the National Sheriffs' Association strongly believes that the solution lies in the implementation of a Nation-wide public safety interoperable broadband network.

Both Government and non-Government studies have recently shown that public safety will not be able to obtain the necessary bandwidth and speed for our current and future needs based on 10 MHz of broadband spectrum alone. The additional 10 MHz of spectrum will be combined with the current 10 MHz of broadband spectrum that is allocated to public safety to create a 20 MHz block of spectrum, to build a Nation-wide public safety interoperable broadband network.

It should also be said that the D Block is located directly next to the current 10 MHz of broadband spectrum that is currently licensed to public safety.

When built, the new Nation-wide public safety broadband network will be able to support a wide range of public safety, Government, critical infrastructure, and consumer applications, such as voice, video, and internet services.

While current law mandates that the FCC, Federal Communications Commission, auction the D Block—an auction that originally failed in 2008—the National Sheriffs' Association, along with numerous public safety, State, and local intergovernmental and industry partners have urged Congress to swiftly pass legislation allocating the D Block directly to public safety.

Currently, there are two measures in Congress which not only allocate the D Block to public safety, but also provide the funding necessary to create and implement a Nation-wide public safety interoperable mobile broadband network: H.R. 607, the Broadband for First Responders Act of 2011, introduced by Chairman King and Ranking Member Thompson in the House; and S. 28, the Public Safety Spectrum and Wireless Innovation Act of 2011, introduced by Senator Rockefeller in the Senate.

These two bills take the critical steps necessary to assist the Nation's first responders in our homeland security and emergency preparedness efforts.

It is rare—in fact, almost unheard of—that law enforcement, fire, EMS, dispatchers, mayors, Governors, county commissioners, State legislators all agree on an issue. However, the allocation of the D Block to public safety is that one issue.

Moreover, the White House, the Department of Homeland Security and the Department of Justice have all come out in strong and unified support of the D Block allocation to public safety, thus also recognizing the significant need to create this broadband network.

The time to act is now. The 10-year anniversary of 9/11 is quickly approaching.

However, public safety continues to lack the ability to communicate effectively and efficiently amongst each other. Interoperability needs to be coast-to-coast, border-to-border, urban, suburban, and rural.

The allocation of the D Block to public safety, as well as the allocation of funding needed to build the network, are the significant and necessary steps forward to achieving this goal, obtaining interoperability, and creating a Nation-wide public safety interoperable mobile broadband network.

I want to thank you for the opportunity to come before you today and discuss the critical issues of whether the current communication needs of public safety are being met. I would also like to thank Chairman King and Ranking Member Thompson for their strong leadership on the issue of D Block allocation and their unwavering support of the Nation's first responders.

I am happy to answer any questions the committee may have.

[The statement of Sheriff Fitzgerald follows:]

PREPARED STATEMENT OF SHERIFF PAUL H. FITZGERALD

MARCH 30, 2011

Good Morning Chairman King, Ranking Member Thompson, and Members of the committee. My name is Paul Fitzgerald and I currently serve as the Sheriff of Story County, Iowa and as the first vice president of the National Sheriffs' Association (NSA). The National Sheriffs' Association represents the 3,083 elected sheriffs across the country and more than 20,000 law enforcement professionals, making us one of the largest law enforcement associations in the Nation. I am pleased to have this opportunity to appear before you today to discuss the critical issue of public safety communications and whether our current communication needs are being met.

Public safety communications has been a heavily debated and discussed issue over the last decade, particularly regarding the issue of interoperability among the Nation's first responders. Since the tragic events of September 11, 2001, there has been a significant need among our Nation's first responders to build and implement a robust Nation-wide public safety interoperable mobile broadband network that will improve our Nation's homeland security and provide first responders with new interoperable communications technologies that are urgently needed. It is a need that was recognized and recommended by the 9/11 Commission—and it is the only recommendation from the Commission that has yet to be implemented.

The purpose of this hearing is to examine whether the needs of first responder communications are being met. Mr. Chairman, simply stated, public safety currently lacks the basic ability to interoperably communicate amongst each other. In my county of Story, the local law enforcement, fire, and EMS does have interoperability amongst each other within the county lines. We are the exception in Story County—not the rule. The vast majority of public safety agencies Nation-wide do not have these capabilities. Furthermore, although local Story County first responders have interoperability, we are still unable to communicate with State law enforcement on the same bandwidth nor are we able to communicate with local first responders in neighboring counties.

There must be a solution to this critical problem—and the NSA strongly believes that the solution lies in the implementation of a Nation-wide public safety interoperable broadband network.

For us to be successful, we need allocation of the 10MHz of spectrum known as the "D Block" to public safety and sufficient and sustainable funding to implement the network.

Both Government and non-Government studies have recently shown that public safety will not be able to obtain the necessary bandwidth and speed for our current and future needs based on 10MHz of broadband spectrum alone. The additional 10MHz of spectrum will be combined with the current 10MHz of broadband spectrum that is allocated to public safety to create a 20MHz block of spectrum to build

a Nation-wide public safety interoperable broadband network. It should also be said that the D Block is located directly next to the current 10MHz of broadband spectrum that is currently licensed to public safety.

When built, the new Nation-wide public safety broadband network will be able to support a wide range of public safety; Government; critical infrastructure and consumer applications such as voice, video, and internet services, including:

- transmitting high-resolution pictures and building blueprints,
- on-the-scene telemedicine services,
- emergency vehicle telematics, such as GPS tracking,
- incident command and control operations,
- two-way video conferencing; video monitoring and broadcast services,
- first responder health monitoring equipment,
- emergency management programs,
- large-scale evacuation management,
- public alerting and alarm services,
- enabling next generation 9–1–1.

These capabilities mean: That deputies will be able to receive real-time video on their patrol car laptops from videos within a school in the event of a school shooting, enabling deputies to identify where to quickly and most appropriately respond; that firefighters will be able to download building schematics of a burning building to determine safe points of entry; and the EMTs will be able to transmit patients' vital signs en route to hospitals—saving time and lives.

While current law mandates that the Federal Communications Commission (FCC) auction off the D Block spectrum—an auction that originally failed in 2008—the NSA, along with numerous public safety; State and local intergovernmental; and industry partners, have urged Congress to swiftly pass legislation allocating the D Block directly to public safety.

Allocating the D Block to public safety enables public safety to know that the network and communication will be there when needed. Commercial networks do not and will not provide the reliability needed for mission-critical public safety communications—we cannot agree to an unproven, untested theoretical plan that puts our first responders and citizens in real jeopardy.

Currently, there are two measures in Congress which not only allocate the D Block to public safety, but also provide for the funding necessary to create and implement a Nation-wide public safety interoperable mobile broadband network: H.R. 607—the Broadband for First Responders Act of 2011, introduced by Chairman King and Ranking Member Thompson in the House; and S. 28—the Public Safety Spectrum and Wireless Innovation Act of 2011, introduced by Senator Rockefeller in the Senate. These two bills take the critical steps necessary to assist the Nation's first responders in our homeland security and emergency preparedness efforts.

It is rare, in fact almost unheard of, that law enforcement; fire; EMS; dispatchers; mayors; Governors; county commissioners; State legislators all agree on an issue. However, the allocation of the D Block to public safety is that one issue. Moreover, the White House; the Department of Homeland Security; and the Department of Justice have all come out in strong and unified support of D Block allocation to public safety; thus, also recognizing the significant need to create this broadband network.

The time to act is now. The 10-year anniversary of 9/11 is quickly approaching; however, public safety continues to lack the ability to communicate effectively and efficiently amongst each other. Interoperability needs to be coast-to-coast; border-to-border; urban, suburban, and rural. The allocation of the D Block to public safety, as well as the allocation of funding needed to build the network, are the significant and necessary steps forward to achieving this goal; obtaining interoperability; and creating a Nation-wide public safety interoperable mobile broadband network.

I want to thank you for the opportunity to come before you today and discuss the critical issue of whether the current communication needs of public safety are being met. I would also like to thank Chairman King and Ranking Member Thompson for their strong leadership on the issue of D Block allocation and their unwavering support for the Nation's first responders. I am happy to answer any questions the committee may have.

Chairman KING. Thank you very much, Sheriff Fitzgerald.

I now recognize Mr. Simay for 5 minutes.

STATEMENT OF GREGORY L. SIMAY, AT-LARGE DIRECTOR, LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATION SYSTEM

Mr. SIMAY. Good morning, Chairman King, Ranking Member Thompson and Members of the committee, including Congresswoman Richardson, who invited me here.

I am Greg Simay, a board member of the Los Angeles Regional Interoperable Communications Systems Authority. That is a mouthful. We call it LA–RICS.

I support the general thrust of the comments of the other witnesses, and want to emphasize a few points besides.

First, to begin with the D Block, I support the Homeland Security's provision for the D Block for the 10 MHz. I think that is an excellent first step.

Recognize that within Los Angeles County, however, we do have a lot of UHF frequencies that are and will be in active use. They were allocated from previous television channels, and it was part of the—it resulted from the spectrum crowding in the Los Angeles area.

One of the provisions of H.R. 607 calls for perhaps auctioning the frequencies below 512 MHz. That would be problematic in the case of Los Angeles County. But as far as reserving the D Block and taking the first crucial steps towards a broadband system, it is an excellent first step.

Several general remarks. It is true that I think that eventually, technology will allow voice interoperability to ride on a 700 MHz system. In the meantime, UHF frequencies, UHF interoperability will probably be necessary for one more technological cycle, which is one of the thrusts of the LA–RICS, in addition to the broadband thrust that it has, thanks to, again, the support of the Homeland Security Committee and the BTOP program.

There will be some competing infrastructure. The Smart Grid, which will become more and more critical to utility infrastructure in the future, may tend to compete in those same bands with public safety. So, the need to coordinate among those competing uses, I think will be an important and emerging issue as we go on.

For both Smart Grid and for interoperability in the broadband system, cybersecurity is a must in addition to physical security.

Fortunately, with the P–25 standards, spoofing is a lot more difficult than before. But if you are talking about shared spectrum, you can have—emulation is a problem. Again, this committee is very well-positioned to take a cybersecurity look at the implications for broadband and frequency sharing.

Probably the biggest challenge we face is not so much technological, but having the interoperability mind. The irony is, pre-9/11, interoperability was much easier to achieve prior to digital technology, but the interoperability mind was not there, except for a few visionary folks within L.A. County, including Sheriff Baca, for example, who had developed the LARTCS system.

Fortunately, even though the technological challenges are a little tougher now with digital, we have solutions arising to meet them like P–25. The remaining solution is to develop that interoperable mind.

In that regard, efforts like LA–RICS, which bring together independent cities, contract cities, county-level governments and other agencies, talking not only among board members but technical committees, operations committees that get together, legislative committees, debating the uses of spectrum.

How much should be back-up spectrum? How much is needed when the network should fail? How much is needed when a firefighter is trapped in a building to be able to speak to firefighters outside? Where trunking fits in? All of that is going to be vigorously debated as we move towards negotiating and selecting a vendor.

When you hear those, if you should hear those vigorous debates, I want two words to flash in your mind—"real progress"—because that is exactly what is needed to happen.

To actually develop the personal relationships in building the system, building the relationships as you build the system is really what is going to make interoperability truly operational in the future. We are making great progress in L.A. County.

I welcome any questions you may have.

[The statement of Mr. Simay follows:]

PREPARED STATEMENT OF GREGORY L. SIMAY

MARCH 30, 2011

Hon. Members of the Committee on Homeland Security: Thank you for allowing me to share my thoughts on the critical issue your question captures, "Are the public safety communications needs of our first responders being met?" The short answer: Not yet. But, we are making good progress.

County and local governments in Los Angeles County (L.A. County) are moving forward to build a radio voice system and a broadband data system that will allow them to seamlessly coordinate their responses to regional emergencies, as well as enable them to more effectively carry out their day-to-day operations. County and municipal agencies are working through the governance, financing, operating, and policy issues that are often more challenging than the technical ones.

As the Committee on Homeland Security has been advocating, tremendous opportunities for improved public safety communications lie in three areas:

- *Interoperability*.—Interoperability allows first responders to exchange voice or data wirelessly on demand, in real time, with appropriate physical and cybersecurity. In a major natural disaster or terrorist incident, interoperability will mean the difference between lives lost and lives saved: the lives of first responders, and the lives of those they serve. This was one of the major lessons learned following 9/11.
- *Wide area coverage*.—Wide area coverage allows first responders to remain in touch with their home base, even if having to operate well outside their home territory. Police officers especially appreciate this feature.
- *Broadband data*.—Broadband data will allow first responders to go well beyond exchanging text messages or doing license checks, which represent the great majority of data transmissions today. It will go beyond receiving graphics, as useful as that will be. Broadband will allow streaming video on-scene and downloaded plans for a burning building, an example President Obama gave in his 2011 State of the Union address.

An integrated system making use of all three of these capabilities would go very far toward making our public safety communications equal to the challenges posed by natural disasters and terrorist incidents in major metropolitan areas. Now I'd like to discuss several topics with you:

- *Federal guidance needed to spur development of the "communications highway"*.—Renewing the Nation's communication infrastructure without breaking the bank, overcoming operational barriers, reallocating the 700 MHz D Block, ensuring cybersecurity, and coordinating spectrum needs for Smart grid operations.
- *A brief overview of public safety operations*.—Interoperability arising from wide-area operations, the need to include agencies providing logistical support.

- *L.A. County is grappling with a huge public safety communications challenge*.—Huge populations scattered over many agencies, geographically diverse, target-rich.
- *The LA–RICS response*.—Coming to grips with the challenge of creating a county-wide, integrated voice and data system for first responders.
- *The ICIS response*.—Independent cities banded together and created a regional voice interoperable network.

And then I'll offer some concluding remarks that will recap the most important action items.

FEDERAL GUIDANCE NEEDED TO SPUR DEVELOPMENT OF THE "COMMUNICATIONS HIGHWAY"

Before focusing on the public safety communication within L.A. County, it may be helpful to point out the Federal support that is needed for the public safety communications throughout the Nation:

- Renewing the Nation's communications infrastructure, transforming it into "highways" of interoperable voice and data networks, but without breaking the bank.
- Overcoming operational barriers.
- Reallocating the 700MHz D Block.
- Ensuring the cybersecurity of the public safety communications grid.
- Coordinating spectrum for Smart Grid initiatives with that needed for public safety communications.

The overarching challenge is to successfully translate recent technological advances into viable infrastructure that supports our first responders.

Renewing the Nation's communications infrastructure, transforming it into "highways" of interoperable voice and data networks, without breaking the bank.—We need to renew our communications infrastructure as much as we need to repair roads and bridges, replace water mains, and rebuild power lines. The "information highway", while perhaps an overused phrase, does invite an analogy with the interstate highway system, a triumph of post-WWII Federal initiative. However, attempting to build a National system all at once could be a formidable challenge.

A more feasible approach would be to adopt Federally the "systems-of-systems" approach embraced by the State of California. It would require the widespread use of multimode (analog, digital, conventional, trunked) and multiband (VHF, UHF, 700 MHz, 800MHz) radios. Fortunately, several manufacturers (Harris, Guardian, Motorola, Thales) have begun to manufacture them.

As importantly, each system must commit to be interoperable with the others. Through various mechanisms, the Federal Government could offer grants specifically for the purpose of achieving system interconnection. The Federal Government needs many agencies to be simultaneously working on their pieces of the National network—but they all have to connect together.

Overcoming operational barriers.—The P–25 standards substantially address the technical challenges of communication among differing modulation schemes: Conventional, trunked, and analog systems. But substantial operational barriers remain. Agencies must allow others to come onto their dispatch channels. (And note: Thanks to P–25, with its use of individual ID's, spoofing is much harder.) SAFECOM could review its training standards with the goal of setting this as an expectation. Much work at the local levels will still be needed to change long-standing cultural attitudes.

Reallocating the 700 MHz D Block.—We fully support reallocating the D Block for public safety. Concerns about how to attain the revenue (estimated at $1.5 to 3.2 billion) that would have come from auctioning the D Block are understandable, given that Congress had already accounted for this revenue. However, auctioning the public safety spectrum below 512 MHz, as proposed in H.R. 607, would be highly problematic for L.A. County. The UHF channels for voice interoperability are all under 512 MHz.

Ensuring the cybersecurity of the public safety communications grid.—The general advances in digital and communication technologies that have made cell phones possible have also made radio interoperability much more feasible, even in the absence of common frequency bands.

Inherently, a radio system's use of computers and sophisticated software opens the door to cyber attack. Interoperable systems are more vulnerable to such attacks owing to their greater interconnectedness. The Federal level is best equipped to set cybersecurity standards that help determine if existing encryption schemes are adequate.

Coordinating spectrum for Smart Grid initiatives with that needed for public safety communications.—In coming years, more utilities will have two-way communications with their electric meters and the customers they serve, often making use of the 700 MHz bandwidth. (Fiber optics may also be employed, but rights-of-way barriers and high installation costs will often favor a wireless approach instead.)

The Federal level is best equipped to allocate enough spectrum for both Smart Grid applications and public safety communications. A guiding principle should be to protect current spectrum for public safety until alternative technologies are fully vetted.

BRIEF OVERVIEW OF PUBLIC SAFETY COMMUNICATIONS FROM A FIRST RESPONDER'S POINT OF VIEW

Even in local incidents that first responders can handle with well-defined policies and procedures, wireless voice communications are essential. Dispatchers need to alert their first responders; and the first responders, in turn, need to provide their dispatchers status updates. First responders at the scene need to speak with each other, even if out of normal voice range. Responders within a building need to communicate with nearby responders outside the building even if the radio cannot access the network; that is, the radio on occasion needs to function as a walkie-talkie.

Often, one first responder has to immediately alert many other first responders to a particular situation; most importantly, to come to the aid of injured first responders. Supporting one-to-many communications is therefore a crucial requirement.

Cell phones and radios are the two basic ways to achieve wireless communications. In recent years, cell phones have made their systems more reliable and resilient, and have improved and extended their coverage. They also provide seamless communications among their users. But for first responders, cell phones still fall short in a crucial area: Instantaneous one-to-many communications when fleet-wide situational awareness is needed. They are too slow and reach too few people in this particular instance. For at least one more technological cycle, radios will remain the communications medium of choice for first responders.

Cell phones can be a valuable supplement to first responder communications, and it is likely that future developments will see cell phones and radios integrated in one device. Also, cell phones are coming into widespread use among non-safety city operations, where one-to-many communications are not as important. But, non-safety operations would need to retain enough radios to communicate with first responders during an emergency.

Communication needs arising from first responders' wide-area operations.—Communications must also support responses to incidents that extend over a wide area or that occur outside the first responders' normal service territory: A police officer serves a warrant in another jurisdiction, and the person served threatens to turn violent. Meanwhile, other police officers raid a desert meth lab far from their jurisdiction; and still others pursue a fleeing suspect through several cities.

A mountain wildfire mushrooms, triggering a coordinated response from several different fire fighting agencies. A hazardous material spill occurs on a stretch of freeway, prompting an emergency shutdown of the affected portion of the freeway.

In these examples, the need for two communication capabilities becomes apparent: Wide-area coverage and interoperability. Wide area coverage and interoperability can have an especially great impact on the number of lives first responders can save—including their own—when they are grappling with regional emergencies: A major earthquake hits Southern California; a freight train derails and releases hazardous gases; a terrorist cell succeeds in releasing a dirty bomb.

As first responders know too well, regional disasters unfold rapidly and unpredictably, requiring responses measured in seconds. Without interoperability, whole minutes could pass as a dispatcher or other third-party connects first responders from different agencies.

In a regional disaster, many agencies activate their Emergency Operations Centers, where diverse agency departments come together and coordinate their responses under an Incident Command System. Interoperability would make such communications more efficient, especially at the field level.

The need to communicate with those providing logistical support.—Regional disasters highlight the need for rapid logistical support from non-first responder agencies; for example, heavy equipment to assist with search-and-rescue operations, or a diesel generator to power an emergency shelter until normal power returns. Without power, serviceable roads, and other resources, first responders will be greatly limited in their ability to respond.

Logistical and inter-agency support is also needed in many lesser, day-to-day incidents:

- Fire fighters need the electrical power cut to a burning building to forestall electrocution hazards.
- Police officers need traffic cameras to track the movements of a fleeing suspect.
- Fire fighters may need to bulldoze a new firebreak. Police officers may need to barricade several streets.
- A local police department and airport security mount a coordinated capture of a would-be thief in the airport's parking lot.

Bear in mind that most police and fire departments are too small to contain their own logistical support, such as heavy equipment or emergency generators. They depend on public works departments; water, gas, and electric utilities; and the Red Cross and like agencies.

Interoperability should extend as well to those that can be especially impacted by an incident, such as a school district, a major sporting venue (like the Staples Center), a major industrial site (like an oil refinery), and an airport (like the Van Nuys Airport). Often, those impacted by an incident may also be able to serve as a resource; e.g., as an evacuation center.

L.A. COUNTY IS GRAPPLING WITH A HUGE PUBLIC SAFETY COMMUNICATIONS CHALLENGE

Developing an integrated public communications system within L.A. County is similar to developing one for a sizeable nation prone to natural disasters and an offering an attractive target for terrorists.

Los Angeles County has a high population scattered across many agencies within a diverse geographical area.—Los Angeles County (L.A. County) covers 4,084 square miles, including over 2,600 miles of unincorporated area. It has more than 10 million residents: a population greater than 42 of the 50 States. It has 80 miles of coastline, 1,800 square miles of rugged mountains, expanses of high desert, and Catalina Island. In its size, population, and geographical diversity, L.A. County could make a respectable country.

Within L.A. County are 88 cities and several unincorporated areas, served by 50 law enforcement and 31 fire service agencies, as well as paramedics and other medical first responders. L.A. County has over 34,000 first responders, not counting the non-safety municipal services and other logistical support.

The Los Angeles region is designated as a high-threat area by Homeland Security.—L.A. County has port facilities, international and regional airports, sports stadiums, high-profile media industries, and various other critical facilities. Combine these with a huge concentrated population, and you have an attractive target for would-be terrorists. Due to California's history of natural and human-made disasters, the State divided itself into seven mutual aid regions. The Sheriff of Los Angeles County is the Emergency Coordinator for both Los Angeles and Orange Counties, which serves a combined population of over 16 million.

In L.A. County, the various public agency radio systems are scattered across four incompatible frequency bands using different technologies and radio equipment. Interoperability today requires exchanging radios among first responders or implementing a complex system of patches that can temporarily tie two or more radio frequencies together. Although patches have been a great help, they are cumbersome, time-consuming, and sometimes unreliable. The Los Angeles Regional Tactical Communications System (LARTCS) provides some ability to communicate with city, county, State, and Federal agencies in the event of a large-scale incident.

THE LA–RICS RESPONSE

In the years following 9/11, agencies within L.A. County mounted two major responses to achieving an integrated, interoperable radio system:

- Los Angeles Regional Interoperable Communications Systems Authority (LA–RICS Authority, or simply LA–RICS) See *www.larics.org*.
- Interagency Communications Interoperable System (ICIS) Joint Powers Agency (ICIS JPA or simply ICIS) See *www.icis.org*.

As counties and other agencies seek to capture the benefits of interoperability and manage the costs, a variety of competing models has arisen. Some organizations, like LA–RICS, have adopted a model geared to a single system serving a large area, usually a county. Others, like ICIS, have adopted a model more geared to a systems-of-systems approach with different systems tailored to the needs of different types of agencies.

Brief history of LA–RICS.—In 2005, L.A. County formed a Regional Operability Steering Committee and engaged RCC Consultants to conduct a county-wide radio interoperability study. RCC Consultants concluded that interoperability between

public safety agencies throughout the L.A. County region would best be achieved through the creation of a shared, region-wide single platform voice and data radio system.

By 2009, the Los Angeles Regional Interoperable Communications Systems Authority (LA–RICS) had been established, along with a 17-member Governance Board and several standing committees, including Technical, Operations, and Finance.

LA–RICS Mission.—For voice interoperability, the mission of LA–RICS is to provide a unified voice and data communications platform for all first responders in the region. The platform will support day-to-day communications needs within individual public safety agencies, and also provide instantaneous communications among general agencies in the event of a man-made or natural disaster.

As you know, SAFECOM is a Homeland Security program that provides research and guidance to public safety agencies on more efficient and effective interoperable communications systems. LA–RICS is committed to meeting the highest SAFECOM standards.

For data, LA–RICS' mission is to deploy LA–SafetyNet, a 700 megahertz (MHz) public safety mobile broadband network across L.A. County.

The LA–RICS Model.—The LA–RICS model works best for cities unable to build their own individual system, or in a position to greatly benefit from facility sharing. Many cities are wholly dependent on L.A. County for their police and fire services, and use radio systems that are more than 20 years old. Especially in today's economy, many of these "contract cities" could not replace their radio systems and achieve interoperability without county assistance.

Other cities, like Los Angeles (an independent city), may find that facility sharing is especially advantageous. Also, by standardizing equipment over a wide area, LA–RICS offers uniform operations and maintenance as well as the buying leverage that comes from making large-volume purchases. Certainly there is much to be said for eliminating the duplication of costs and effort involved in maintaining separate systems.

LA–RICS governance.—LA–RICS attempts to achieve a balance among several of its key constituencies:

- Balance between Chief Executives and Public Safety representatives.
- Relative balance between the County of Los Angeles, the City of Los Angeles, as well as other independent and contract cities; and a relative balance among independent and contract cities.
- Inclusion of associations that represent member agencies that may not otherwise be members of the JPA's Board of Directors.
- Inclusion of significant non-city/county governmental stakeholders.

The resulting Board structure encompasses 17 members:

1. The City of Los Angeles City Administrative Officer,
2. The City of Los Angeles Fire Chief,
3. The City of Los Angeles Police Chief,
4. The City of Los Angeles Chief Legislative Analyst,
5. The County of Los Angeles Chief Executive Officer,
6. The County of Los Angeles Fire Chief,
7. The Sheriff of Los Angeles County,
8. The County of Los Angeles Department of Health Services Director,
9. The Los Angeles Unified School District Police Chief,
10. The City of Long Beach,
11. The Los Angeles Area Fire Chiefs Association,
12. The Los Angeles County Police Chiefs Association,
13. The California Contract Cities Association,
14. At Large,
15. At Large,
16. At Large,
17. At Large.

One At Large Director (and one Alternate Director) must represent a Member city that operates both independent police and fire departments. Two At Large Directors (and two Alternates) must represent Member cities that operate at least one independent safety department (police or fire). One At Large Director (and one Alternate Director) must represent a Member city not otherwise represented on the Board.

LA–RICS Funding—Voice.—To date, slightly over $141 million in LA–RICS funding for voice interoperability has come from the County, City of Los Angeles, and several grants from Homeland Security, State Homeland Security, the Urban Area Security Initiative and the Department of Commerce:

- *The Public Safety Interoperable Communication (PSIC) Grant, in the amount of $22,278,788*.—PSIC is a one-time, matching grant program. Only planning costs

are allowed under this grant, but they include engineering designs, site assessment plans and system design plans.

- *Urban Area Security Initiative (UASI) Grant, in the amount of $85,422,803; and the State Homeland Security Grant program (SHSGP), in the amount of $19,539,428*.—UASI and SHSGP grants have been awarded each year since 2003. Allowable costs include plans and designs; radio equipment costs, including installation; and, subject to justification, construction of communication towers. In general, though, construction costs are disallowed.
- *Justice Assistance Grant (JAG) American Recovery and Reinvestment Act (ARRA), in the amount of $7,051,984 for the City of Los Angeles and $7,051,984 for L.A. County*.—JAG ARRA is a one-time grant allocation for the improvement of communication sites. Sites have been identified, and work will proceed on identified sites following the completion of the associated environmental impact reports.

In July 2008, LA–RICS had publicly estimated a system cost of $600 million for the system supporting voice interoperability. As part of its procurement process, LA–RICS has not yet used figures from the actual vendor bids; however, the $600 million remains a useful planning figure.

The funding challenge is to close the (nominal) $459 million gap between $141 million and $600 million. It will not be easy. LA–RICS has looked at various cost-allocation schemes among the cities—every one of them are insupportably burdensome, especially now. Going to the voters is also problematic, given the tough economy.

LA–RICS Funding—Data.—Funding for LA–RICS' LASafetyNet broadband network is, fortunately, largely covered with the Broadband Technology Opportunities Program (BTOP) American Recovery and Reinvestment Act (ARRA) Grant, in the amount of $154,640,000. The BTOP grant is one-time and only for the broadband portion of the system. Allowable costs include, planning, equipment, project management, and construction. The only disallowed costs are for operations and maintenance.

LA–RICS progress.—In July 2008, LA–RICS had also estimated a 5-year completion date, beginning in 2008 and ending in 2012. However, the 5-year time frame does not start until there is a contract with a vendor. At present, bids from two major vendors (together with their associated company teams) have been evaluated, and vendor negotiations are about to start. So the time frame has shifted to 2012–2016.

THE ICIS RESPONSE

As mentioned earlier, the Interagency Communications Interoperable System (ICIS), represents another interoperability initiative that occurred within L.A. County following 9/11.

Brief History of ICIS.—In 2002, Burbank, Glendale, and other cities were faced with a pressing need to replace their aging radio systems. The tragedy of 9/11 had made it very clear that public agencies had to do a better job of working together, and radio interoperability was recognized as key to achieving this goal. But, widespread radio interoperability had not yet been achieved within Los Angeles County. All municipal radio systems were functioning as islands.

Glendale, with the most urgent need to replace its system, proposed that cities replace their aging radio systems with ones that would not only be new, but interoperable as well. Burbank readily agreed; its technical staff had also appreciated the potential of interoperability. The cities' new, trunked radio systems could be linked together by employing microwave network technology at a modest incremental cost.

It rapidly became clear that an organizational framework was needed where Burbank, Glendale, and others could equitably address shared cost, cost sharing, allocation of roaming capacity, and other interagency issues. Thus came about the Interagency Communications Interoperability System Joint Powers Authority (ICIS JPA, or simply ICIS) in 2003.

ICIS Mission.—The mission of ICIS is to provide independent Los Angeles County cities with seamless, wide-area radio voice communications among their first responders, selected targets, and those providing them with logistical support. Note that establishing a broadband network is not among ICIS' goals at this time.

The ICIS Business Model geared to independent cities.—The ICIS business model for voice interoperability tailors itself to the strengths and concerns of independent cities:

- Individual cities fund, build, and maintain their own radio cells. Each city retains complete ownership and control of its own radio infrastructure.

- Under the auspices of a joint power agency, individual cities link their individual cells together to create a regional network offering wide-area coverage and seamless communications among different agencies.
- By design, individual cells would still be able to function even if the ICIS networking among them should fail. If the connection with the ICIS network is lost, each city's radio system continues to operate, merely losing the ability to roam away from its home system.

Agencies can choose to participate in ICIS under several levels of commitment, ranging from infrastructure-provider to occasional user for mutual-aid. Cities can also choose whether to restrict interoperability to first responders like police and fire, or to extend it to other departments like Water and Power or Public Works.

The advantages of the ICIS model can be considerable:

- Because each city has already built its own cell, the cost of joining these cells into a wider network is incremental, generally 5 percent or so of the cost of building a cell.
- The benefits, mainly wide area coverage and seamless communications, are significant and easy to distribute on an equitable basis.
- Cities retain local control over their cell, including its service reliability, frequency licenses. Each city still decides to what extent its radio system addresses special conditions, such as hilly terrain. Each city still decides to what extent it extends radio communication beyond first responders.

The ICIS business model can accommodate wide differences in both the timing and funding of radio cells among independent cities. By being able to wait until a particular independent city is in a position to replace its radio system, ICIS can offer interoperability on an incremental basis.

To realize the advantages offered by the ICIS business model, participating cities must be willing to exert discipline in several ways:

- Each city must fund, build, and maintain its own cell.
- Each cell within the ICIS network must adopt certain standard communication protocols, and must be compatible with a modern, trunked radio system.
- Each city must closely coordinate its activities with those of the others so that radio equipment and frequency assignments are up-to-date and not in conflict.

These are not easy criteria to meet, especially having the discipline to self-fund a municipal radio system. Therefore, within L.A. County, ICIS has a limited though important application; and ICIS is committed to working with LA–RICS in the development of a final regional solution.

ICIS governance structure.—Each city joining ICIS as full members has a seat on the ICIS Governing Board, which meets at least monthly and follows the requirements of the Brown Act. Several standing committees provide the Board guidance: Operating, technical, and legislative. Committee memberships draw from the staffs of the member cities. A compensated Executive Director represents ICIS to various outside agencies, as well as coordinates the efforts of the committee staffs.

ICIS Funding.—ICIS has secured about $6,550,000 in grant funding. Part of this success comes from the ICIS cities' ability to successfully leverage their own local, radio replacement dollars (about $60 million) into a regional, interoperable system.

- *2008 COPS Technology $561,000 Congressional appropriation*.—ICIS upgraded its Master Site to P–25.
- *2008 COPS Technology Senate appropriation in the amount of $88,854*.—ICIS integrated its trunked radio system to the P–25 Master Site.
- *2009 SHSGP Grant in the amount of $2,200,000*.—To be used for microwave looping and one or more repeater sites within the San Gabriel Valley.
- *2010 SHSGP grant in the amount of $1,000,000*.—For additional microwave looping as well as a backup generator for the Master Site as well as one for the Whittier Site.
- *2010 Department of Justice BJA Grant $500,000 Congressional appropriation*.—For a microwave link to the Pasadena microwave site as well as for ICIS system narrow banding.
- *2011 UASI Grant in the amount of $2,200,000.*

Each ICIS member city contributes $40,000 per year to support ICIS operations and maintenance budget.

ICIS Progress to date.—Besides Burbank and Glendale, ICIS today includes the cities of Culver City, Beverly Hills, Montebello, Pasadena, and Pomona: Seven cities in all. The Verdugo Dispatch Center recently joined ICIS, bringing radio interoperability to fire operations not only among Burbank, Glendale, and Pasadena, but also Alhambra, Arcadia, Monrovia, Monterey Park, San Gabriel, San Marino, Sierra Madre, and South Pasadena. Through a Council-approved radio maintenance arrangement with Burbank, the Bob Hope Airport also enjoys radio interoperability.

Today, through its subscriber relationships, the ICIS system serves more than 20 agencies and over 1 million citizens in the L.A. area. Outdoor coverage is good throughout much of Los Angeles County, particularly those areas most frequented by its members. This July, ICIS will have achieved narrowbanding (from 25 kHz to 12.5 kHz). ICIS members are actively making their individual systems fully compliant with P–25; the ICIS backbone has already achieved P–25 compliance.

CONCLUDING REMARKS

At this point, we hope you'll agree that the interoperability and broadband efforts within L.A. County represent substantial progress in the establishment of a regional solution for major metropolitan areas. The interaction between a county-wide system in-the-making (LA–RICS) and a limited-but-operational regional system (ICIS) will result in robust solutions that can translate to other areas of the country.

This process can be helped along at the Federal level through several initiatives:

- Adopt Federally the "systems-of-systems" approach embraced by the State of California. It would require the widespread use of multimode (analog, digital, conventional, trunked) and multiband (VHF, UHF, 700 MHz, 800MHz) radios.
- Through various mechanisms, the Federal Government could offer grants specifically for the purpose of achieving system interconnection.
- Agencies must allow others to come onto their dispatch channels. SAFECOM could review its training standards with the goal of setting this as an expectation. Much work at the local levels will still be needed to change long-standing cultural attitudes.
- Auctioning the public safety spectrum below 512 MHz, as proposed in H.R. 607, would be highly problematic for L.A. County. The UHF channels for voice interoperability are all under 512 MHz.
- Set cybersecurity standards that help determine if existing encryption schemes are adequate.
- The Federal level is best equipped to allocate enough spectrum for both Smart Grid applications and public safety communications. A guiding principle should be to protect current spectrum for Public safety until alternative technologies are fully vetted.

Thank you for the opportunity to address this committee.

Chairman KING. Thank you, Mr. Simay.

I want to thank all the witnesses for their testimony, and also for all of you for keeping within the 5-minute limit. I would hope that the Members on the panel here will take notice of the witnesses' brevity.

[Laughter.]

Chairman KING. I also want to thank law enforcement groups throughout the country who have worked with us on this, and other first responder organizations. The New York Police Department has been very active with Chief Dowd, and we want to acknowledge Inspector Spadaro, who is here today from the NYPD, and thank your department for the tremendous work they have done on this issue.

My first question would be to Sheriff Fitzgerald.

Sheriff, in your testimony, you reference how, in your county of Story, the local law enforcement, fire, and EMS do have interoperability with each other within the county lines.

Could you go into more detail how you were able to achieve this? But also, follow up with that by explaining why you were unable to communicate with State law enforcement.

Sheriff FITZGERALD. Chairman King, a number of years ago, Story County went to an 800 trunk system. Within Story County, fire, EMS, and law enforcement all joined and moved to the 800 system. So, within Story County, we have interoperable communications on voice among all three entities.

The problem lies that the surrounding counties—and Story County is really not the rule, it is the exception here—the surrounding

counties are still on the lower band frequencies and use other bands of spectrum to communicate on. Now, the problem this causes for rural Story County, as central part of America, is we rely greatly on first responder mutual aid and assistance.

So, when we have a situation where we have to work with the State patrol, or we have an issue, whether it is a fire response or a crash, or another law enforcement situation on the bordering part of the county, when we have mutual aid from the other counties, we do not have the communication outside our squad cars.

Inside our squad cars, we have to have multiple radios, so we can talk to the multiple emergency responders that we will be working with.

However, once we are outside the car, we are virtually dead. In order to communicate, we have to go back to the car and supply that communication.

Chairman KING. Mr. Carrow, in your testimony, you noted how first responders respond to emergencies in schools equipped with fixed video, but cannot access and share that video remotely or wirelessly in a secure environment today.

Can you explain how you envision a National public safety broadband network working?

Mr. CARROW. For video?

Chairman KING. Yes.

Mr. CARROW. Well, I know in our State, we are exploring it right now, where, as I said in the testimony, almost every school does have fixed video.

When we get on the scene, we do not have any capability currently to view that same video, whether it be in a communications center, in a mobile communications van on scene, or what have you. In my opinion, that is mission-critical.

If you have a Columbine-style event unfolding before you, if you could simply lock in, maneuver the cameras, and see exactly what is going on before you put your people in harm's way, then you have a better operating picture of what is going on in that school, who is held up where, how many victims you have possibly, and so forth.

I would envision, with a secure public safety broadband network, with the key being secured, you would have access over I.P. to go ahead and not only view the cameras, but also manipulate them just as well as you could within the building.

Chairman KING. How does your group work with the Federal Government in coordinating first responder communications? You have such a variety of members within your organization.

Mr. CARROW. Well, basically, our mainstay is our frequency coordination that APCO has been known for for 76 years. Of course, we do not coordinate for the Federal Government, but we do have Federal partners that we deal with on at least a weekly basis, to coordinate mostly R.F. communications at this time.

But again, our big onus here is for the National broadband plan, starting out as data and, hopefully, down the road, envision that migrating over to mission-critical voice.

Chairman KING. I would just ask you, any of you who want, to give examples of how the type of interoperability that we are look-

ing for, because it was not available, how that adversely impacted you in any situation?

Mr. CARROW. Well, I can make one mention personally. When the C–5 crashed in Dover, Delaware, several years ago, I was on that scene that morning with our mobile communications van.

The first thing I noticed is—and we have a full State-wide 800 MHz trunk digital radio system. Everybody in the State of Delaware is on that as first responders, including our Federal partners, FBI, DEA, and U.S. Marshals.

So, we do come prepared to a scene to, "plug-and-play," if you will, using your own radio, but you switch to mutual aid talk groups.

What I noticed that morning, and what is currently lacking to this day, is the fact that we have to rely on a computer-aided dispatch system back in the 9–1–1 center that we could view in the mobile command center, so we knew what boots we had on the ground for at least an hour previous to us arriving with the mobile communications van.

All of a sudden, as the major television networks arrived on the scene, they do what they are trained to do. They get a cell phone line, and they leave it open with their control room back at their headquarters or their control station.

So, that brought the cellular network basically to a screaming halt. That made us lose our connectivity to get into our computer-aided dispatch system.

If we had a public safety-run, National broadband network, we would be able to control that, and cellular use would not adversely affect it.

Chairman KING. Thank you all for your testimony. I recognize the Ranking Member.

Mr. THOMPSON. Thank you very much, Mr. Chairman.

Very rarely do we get witnesses who pretty much agree with each other on a panel.

[Laughter.]

Chairman KING. So, it is refreshing.

But I think that the point that the Chairman and I, by co-sponsoring this bill, is we think that this is so mission-critical to first responders, that we absolutely have to put the politics aside.

I am from an area that was ravished by Katrina, as I said. I saw first-hand what the lack of communication can do to people who want to help, but they do not know how to do it.

So, and I guess I will go down from the chief all the way. There is no objection in your professional relationship or work that a dedicated public safety spectrum like we are talking about here is the right thing to do.

I will start with you, Chief.

Chief PAROW. We wholeheartedly feel that it is the right thing to do to have a dedicated spectrum. I mean, we have suffered for—I have been in, going on 34 years now, in the service. Interoperability has always been an issue.

You know, we operate currently on about six different splinter bands across the spectrum. In my community, when we have mutual aid, there are two communities, two cities that come into my community that we cannot talk to on radio.

As a matter of fact, we have a radio box that we bring to the fire scene so we can hand them radios, so we can talk to them.

Just recently, we were able to communicate back and forth with the police department. So, that was a big move to us.

But in Massachusetts, of course, we cannot talk to the State police. We cannot talk to emergency management or any of the other State entities. So, this was a welcome thing that we do need. We need it badly.

Mr. THOMPSON. Sheriff.

Sheriff FITZGERALD. Without question, this is something that all first responders across America need. Not only is it important for the large cities and large urban areas—and you yourself stated the damage and the devastation that you had with Hurricane Katrina, when it went through your State.

Last year in Iowa, a couple of counties away, we had a tornado, an F5 tornado, go through a small community, and almost eliminated that community from the map.

I sent deputies up there to work for 2 weeks to help with the first response and the on-going response as the community struggled to come back together.

But with that response there was law enforcement, police, and deputies from all over the State. There was fire agencies from all over the State, and there was EMS from all over the State, as well as emergency management.

However, the majority of the communication, because of the lack of interoperability we had, was sent like it was many years ago, was sent with runners from one part of the town to the other to deliver a message from the command post at somebody's stationing command—without interoperability and without communication.

In the past, when first responders needed spectrum, the FCC has been great to give us spectrum. The problem is, they give a spectrum in different bands, so that we have to have multiple devices and multiple ways to communicate.

This is an opportunity, that by giving the D Block, the 10 MHz of spectrum, to the adjoining 10 MHz that public safety already has, will give us a full range of 20 MHz of spectrum that we will be able to build single devices out of and operate in a safer environment for first responders and the community.

Thank you, sir.

Mr. THOMPSON. Thank you.

Mr. Carrow.

Mr. CARROW. Yes. APCO International wholeheartedly supports the same thing my two colleagues have said. Basically, again, I come a little bit biased, because the State I come from being small and having some forethought many years ago, was able to successfully put in a full State-wide radio system.

So, we do have mutual aid across all disciplines—fire, police, EMS—and including local utilities in the event of a major emergency such as the three snow storms we lived through last year. They become, at many times, more of a first responder than we are. If you do not have electric, and you do not have the wherewithal to get the job done, we have to rely on them.

But I would say that that interoperability we have experienced also travels across State boundaries. We have sister systems over

in three different counties in the State of Maryland and the city of Philadelphia.

A lot of people do not realize that we do need interoperability with Philadelphia, because during heightened levels of homeland security, the Philadelphia police aviation unit flies all the way down through the Delaware Bay to what is known as the anchorage, where all the tankers and so forth are waiting, moored, waiting to come up the coast. We need direct communication with them.

So, we have that. But we also need it on the broadband side.

So, we already have experienced it on the radio side, so I will consider myself very, very fortunate to have lived through that. But I know where we could get with a National public safety broadband network.

So, yes. We fully support that.

Mr. THOMPSON. Mr. Simay.

Mr. SIMAY. Along with the other witnesses, LA–RICS fully supports D Block for public safety purposes, and eventually the 20 MHz becoming available.

Interoperability also provides wide area coverage, which—and I would also want to emphasize day-to-day operations are enhanced. Chasing a suspect across several jurisdictions, making a drug raid in the Algodones Valley, to use an L.A. County example, and still being able to remain in contact with your home dispatcher, or coordinating a response to a wildlife fire.

Of course, we are a target-rich area. The recent events in Japan have made us thought of, again, of what if the big one hits in Los Angeles.

The advantage of having a system that is also useful in day-to-day operations is, it keeps everybody sharp. You think of applications that had not occurred to you before the technology.

Again, with that interoperable mind, you start building relationships that are absolutely crucial in a real disaster when you are just reacting, things are unexpected, and you really need at that time to have the familiarity with the system, which day-to-day operations gives you, and the relationships that you have built as a result in the mean time.

Mr. THOMPSON. Thank you very much.

I yield back, Mr. Chairman.

Chairman KING. I will now recognize other Members of the committee for questions to ask the witnesses. In accordance with our rules and practice, I will recognize Members who were present at the start of the hearing by seniority. Those coming in later will be recognized in the order of arrival.

The gentleman from Minnesota, Mr. Cravaack, is recognized for 5 minutes.

Mr. CRAVAACK. Thank you, Mr. Chairman. Thank you for bringing out this very important issue and regarding communications.

As a prior military member, I know how vital communications is, working with NATO. I understand how you can have huge assets available to you, and if they are unable to communicate with each other, those assets remain idle.

One of the things I am kind of interested in—and, Chief, you brought that up—is, since this is a certain band, this may also be a target to be squelched, as well, with hard targets, like you said,

in regards to towers, being able to be jammed, things along this area.

Have you been able to look at that at all and see how we can protect these frequencies?

Yes, sir.

Sheriff FITZGERALD. Yes, we have been looking at a whole range of areas, but the main issue that we look at when we are looking at public safety.

From a commercial standpoint, the commercial infrastructure is built for commercial purposes. That is not anywhere near the needs for public safety purposes.

We must have hardened infrastructure that is available and ready to withstand winds from hurricanes, from explosions, from handheld radio units that can be dropped and still be functioning. That is something that is much beyond the capability of our commercial providers at this time.

Mr. CRAVAACK. Now, that is vital.

In Minnesota, I just met with law enforcement officers just last week. One of their main concerns is, there are black holes in Minnesota where we have our assets out there that are working out basically single, solo. If something would occur, they are unable to go ahead and contact anyone to bring in reinforcements.

So, this is a vital need.

The only question I would have at this point, Mr. Chairman, is how quickly can we start getting this program off the ground and running in this direction.

So, I thank you very much for all of your efforts and what you have done for this process.

I yield back, sir.

Chairman KING. The gentleman yields back.

The gentlelady from New York is recognized for 5 minutes.

Ms. CLARKE of New York. Let me thank you, Mr. Chairman and Mr. Ranking Member.

As you recall, I am a former New York City Council member. I was seated in the New York City Council in the wake of 9/11.

I also chaired the committee that had oversight for New York City—NYPD and EMS. So, I am intimately acquainted with the fallout as a result of the 9/11 event and the inability for our first responders to communicate.

A number of the things that we were able to identify was the fact that not only is it critical to have that interoperability, but its ability to speak to one another is critical, if you are dealing with towers, you are dealing with subterranean, as we have subway systems. A reliable spectrum is just needed.

We went through all kinds of RFEs to try to find a company that could build that infrastructure for us. At that time, it was not available.

So, Mr. Chairman, the ability for us to dedicate this D Block is really, truly, and literally a matter of life and death. We know this.

So, my question to the panel really is about the Federal role here. Emergency communication requires that the Federal Government work with public safety State and local agencies to take full advantage of capabilities provided by broadband.

Would each of you provide, please provide us with your insight on how you believe the Federal Government can assist with ensuring cybersecurity for the public safety communications grid and assist with coordinating Smart Grid initiatives, as well?

You have got all of these initiatives rolled out simultaneously. At the same time, we want to make sure that we can maximize on your capabilities to have that dedicated band to do the work that needs to be done for our Nation.

So, I look forward to your answers, gentlemen.

I am talking specifically about our ability to help you secure. You know, once we move to that, then those who seek to do us harm will see that as a target, and look at any vulnerabilities within that spectrum to, you know, foil your efforts to keep the public safe.

So, if you have any ideas or any thinking around that, that is what I am trying to get at.

Sheriff FITZGERALD. Congresswoman, a two-part response. First is, the way the Federal Government can help is certainly by funding the issue, providing the funding for us to build this out and to make it secure.

The second part of the question, I do not have the information on cybersecurity and can get back to you. But I will have this researched, and I will get back to you and the committee on your answer.

Chief PAROW. Madam Congressman, another thing we have going on, we have 20 jurisdictions across this country today, that are using our public safety spectrum, which is the 10 MHz that abuts the D Block. They are putting in systems—I believe there are seven or eight States, counties, and large cities that are putting these in.

They are doing a lot of the test work for us. Quite frankly, it is going to help us with our end product to have a secure product and a mission-critical product.

Mr. CARROW. Ma'am, I would just like to add to my two colleagues' comments.

The very first thing that the Federal Government can do to help is to pass the legislation. The second thing would be the funding. I mean, we all know that.

I would echo the sheriff's comments that, you know, the governance is not set yet, and we do not really have the crystal ball laid out here as far as the cybersecurity. But we can certainly get back to you with information based on what the best practices are today, and what we would see holding true to the future.

Mr. SIMAY. Yes. We can also send a more complete answer.

But some initial thoughts are, since it is going to take a while to develop this 700 MHz broadband, if you make use of multi-mode radios, where you could have interoperability making use of different bands, that could allow you to make greater use of the networks, the voice networks that are in place.

But the radios are at the more expensive end, which gets you back to funding. But it can leverage some even greater expenses on the backbone.

Fiber optics can play a role in physical security versus microwave lengths. They are also less sensitive to weather.

Dynamic spectrum access and spectrum sharing is promising, provided you can solve the emulation problem, which again, is a cybersecurity issue. But I have read some of the recent trade magazines, like IEEE Communications, that are now actively discussing that. So, I am confident there will be a technical solution.

Again, your committee is ideally positioned, because you have the vision to see both the cybersecurity angle, as well as critical infrastructure, including public safety communication and Smart Grid.

Ms. CLARKE of New York. Thank you very much, Mr. Chairman. I yield back.

Chairman KING. The gentlelady yields back.

The gentleman from Texas is recognized for 5 minutes.

Mr. GREEN. Thank you very much, Mr. Chairman.

I thank the witnesses for coming.

You know, looking back to 9/11 and Hurricane Katrina, they both definitely demonstrated that we must ensure our plans include worst-case scenarios. The FCC analysis is that, in the public safety world, communications networks are typically designed to support the worst case. This means that for the normal operating environment, there would be significant excess capacity, which they argue is inefficiently used by public safety.

Do you agree or disagree with the approach of building out public safety communications networks for the rare time when the need becomes far much greater than anything that we may have encountered, or what we might normally look to to occur?

We will begin with you, Chief, if you would.

Chief PAROW. I think we always look—when we are putting together a system, we look for excess capacity. We also look for some level of redundancy. So, we do not believe that the excess capacity would go to waste.

Also, we have to plan for the future. You know, I look back when I bought my first computer, an Apple II, it had no hard drive on it at all. The second computer I had had 64 megahertz (sic). I said, I will never use that amount of storage.

Look at today. I just bought a new computer with one terabyte.

So, we think the capacity—we do not believe that it is excess capacity. We believe it is needed capacity, not only to handle what we have today, but into the future, and also to offer some course of redundancy.

Sheriff FITZGERALD. Again, echoing the chief's comments, first of all, in this type of system, we must have a hardened system that is complete with back-up generators, and even in the terrestrial areas where we do not have coverage satellite back-up, so when towers are knocked out, for whatever the reason, that we have a seamless—maintain seamless communication and interoperability.

Most of the comments that you hear from first responders are, we really do not get the attention until there is an emergency. Then they want the best cops, the best trained with the best equipment—same for the best firemen, same for the best emergency medical service providers.

Where are they? Why aren't they trained, and why aren't they equipped? This is all part of preparedness and what we must have.

Whether you have on the larger cities, like New York, the Bay Area in California, they are going to have a much stronger need for the 20 MHz, perhaps on a day-to-day basis.

Where I am at, in rural Iowa, we are going to have less of a need for putting out that capacity. But when we do have an emergency, whether it is a tornado or whether it is some other type of major incident, we must have that instantly available to us.

Being promised that we are going to be given priority is something that is not acceptable to the first responders throughout America.

Mr. GREEN. Thank you very much.

Mr. CARROW. I would just like to add to that, that I think we have proven here and my comments earlier, that, certainly, New York City, I would agree, would have a much greater need on a more consistent basis for the full spectrum than I probably would in the State of Delaware.

However, we do have planned emergencies, and we have unplanned emergencies. In the C–5 crash, it is certainly something that we all trained for. We thought that was going to be our most horrific event that we could ever experience. Thank goodness, there was no loss of life out of that crew or passengers.

However, I think I have proven here that, in that instance, had we had the National public safety broadband network, we would not have missed a beat. We would have had the priority and the spectrum that we needed to get the job done instead of having to pick up the phone and call a 9–1–1 center to find out who was on the scene that we just saw 30 seconds ago. Where are they now? That was mission-critical to us.

But as was already mentioned, the excess spectrum will certainly not go unused, because it is not really excess. It is there for the true big emergency, as you have suggested in your opening comment.

Mr. GREEN. Mr. Simay.

Mr. SIMAY. Yes, I ask myself, what if we have a severe earthquake off the coast of California and a significant tsunami event? Would there be enough redundancy in the higher elevation areas of the county to mount a coordinated response?

The potential loss from a natural disaster or a man-made event, I think far would exceed the investment that we are called on to make. So, following the highest SAFECOM standards that you have established, SAFECOM five, is the best way to go.

Plus, even on day-to-day operations, even on lesser events like wildfires, you have on-going advantages on a day-to-day basis that will repay it. And as mentioned earlier, our imagination will think of more uses, and what seems to be excess capacity today will probably be inadequate in 5 or 10 years.

Mr. GREEN. Thank you very much.

I agree with the Ranking Member that there certainly appears to be a tremendous amount of unified thinking in the safety community. So, thank you very much.

Thank you, Mr. Chairman.

Chairman KING. The gentleman's time has expired.

The gentleman from Pennsylvania, Mr. Marino, is recognized for 5 minutes.

Mr. MARINO. Thank you, Mr. Chairman.

Gentlemen, thank you for being here.

I have three questions that I will combine, and each one of you can take a moment or two to respond on it. Just a little background, I was a prosecutor in Pennsylvania in a community, a rural community, where under certain circumstances, it was difficult to communicate among the 37 different law enforcement agencies within my county.

Examples of perhaps drug raids that involved not only Federal, State, but local individuals, we ended up carrying three, sometimes four different radios, and not knowing which one in an emergency situation to grab or respond to.

If you would, please, give me a worst-situation scenario in a rural area. There was a report that I received from one of my counties in the 10th Congressional District in Pennsylvania, from Susquehanna County. They say it is a draft, but it was a rather, a very complex and complete report about the region and how such a situation, a disaster, man-made or otherwise, would affect them.

So, could you give me a worst-case scenario in a rural area? If you did receive the funding that is requested, or is suggested that is needed to accomplish our mission here—and I do say "ours," as a law enforcement person myself—would it be complete?

Would we have, or would rural areas such as Susquehanna County in my area, have if not communications, but monitoring capabilities Nation-wide, if necessary?

Do you understand my questions? Okay, please. You want to start at this end, please?

You shook your head first, so——

[Laughter.]

Mr. SIMAY. Yes. I think one of the worst-case scenarios for a rural area would be those requiring mass evacuation. If it is a target-rich area—and it can be, if there is a nearby military base, for example. You could have a dirty bomb incident.

But getting aside from that, you could have a derailment of a freight train that releases a hazardous material, maybe chlorine gas that dissipates over a wide area. So, that would be an instance where you might have to do a very swift, mass evacuation, rescue where it is very difficult for first responders to enter the area safely, because of the hazard.

Mr. MARINO. Okay. Perhaps someone else could respond then to, if what we are seeking would accomplish, totally, or only partially accomplish our goal of having communication—complete communication—no matter how rural the area is.

Sheriff FITZGERALD. If I can give you a scenario that happened in Story County, Iowa, Ames, and Iowa State University is in my county.

A couple of years ago, we had a convenience store clerk in Ames was murdered by her husband, a domestic violence case. They are from the Chicago area. So, he started going east back to Chicago through the rural parts of the county. A small-town officer engages the individual, and they exchange gunfire, and then the high-speed chase begins.

Within the county, as I mentioned earlier, we have 800, so the local police and the sheriff's office, we have that seamless commu-

nication. But we were heading into another county, Marshall County.

We had the State patrol responding for assistance, and we also had a life flight helicopter coming in. We already had one death, and there was already shots fired.

Other than that police officer and the deputy sheriff in Story County communicating, the only way they could communicate is by keep juggling between the radios in the car.

As they crossed the Marshall County line and entered a smaller community in Marshall County, the officer there deployed stop sticks. The suspect went over that. His vehicle tires were deflated. He went in the ditch.

So, we now have an armed individual in a vehicle in the ditch. My deputies get there. There was Marshall County deputies.

They are literally standing on the other side of the road from each other, outside of their cars now, and they cannot communicate.

The State patrol, there is no communication with them, where they are, where they are coming in at. The individual finally died of a gunshot wound.

But, I mean, if we had the communication ability so we could coordinate our response, when we are in the heat of the moment, so to speak, it not only enhances the ability to save the responder's life, but also the community that we are trying to protect.

Mr. MARINO. With this D Block system that we are talking about—I have 10 seconds, if you could answer, please, whoever—is that going to accomplish our goal? Are we going to have communications, not only in a limited rural area, but across the State and across the country?

Chief PAROW. Yes. The system we envision and we have planned does cover all the areas. We have given special attention to the rural areas, because those are the areas today that are really suffering, that do not have the communications.

Mr. CARROW. I would just like to mention a perfect example of where it would have worked and worked very well was the Obama whistle-stop tour that came through the northern edge of my State to pick up the then-Vice President-elect and his family.

That was a train ride that transversed several States into the district, multiple counties. In our State alone, it had multiple coordination points amongst Federal partners, State, local, and county officials, and all disciplines—fire, police, and EMS.

It worked very well for radio, because it was very well-planned-out. But just imagine how well that would have worked if you had a National broadband network in effect, where you would have communications that entire length on data, all the way to the District of Columbia, and it is on a secure network.

You certainly did not have that during that day.

Mr. MARINO. Thank you, sir.

Mr. Chairman, I have gone over my time, but thank you for that extra minute, and I yield back.

Chairman KING. I thank the gentleman for his questions.

Now, the gentlelady from Texas, Ms. Jackson Lee, is recognized for 5 minutes.

Ms. JACKSON LEE. Thank you very much, Mr. Chairman. I am enthusiastic about the legislation that you have introduced.

I am baffled—and to the witnesses, I am in another hearing on the Patriot Act, so I ask your indulgence, Mr. Chairman, and to the witnesses.

But it is interesting that we can be in one committee talking about the Patriot Act, and another committee talking about not having spectrum. We are all talking about security.

So, I would like to ask—and forgive me if you have answered it, but I think you will always add something new—each witness to tell me how devastating it would be not to have this spectrum utilization. Forgive my voice.

Let us start with you, Chief.

Chief PAROW. I mean, we have been—since I have been in the fire service, would have been the last 30, almost 34 years—we have been fighting the ability to be able to speak to each other.

I can just give you maybe just one example, that when I was in a fire in a hotel. I could actually look out the window—and this is similar to what happened, not at the size and scope, but on 9/11—I could see the fire engine out in the parking lot, and I was standing in the window and could not communicate with that fire engine. That is how close we were.

Since then, we have been able to change our radio frequency to a higher frequency, and we can now—that has been overcome.

But the problem is, I cannot speak to the police officers standing out in the parking lot.

Ms. JACKSON LEE. We knew that that was a major concern in 9/11, and it is now 2011. It looks as if a country of this greatness could fix it.

Chief PAROW. That is correct.

Ms. JACKSON LEE. Thank you.

Chief PAROW. That is correct. That is exactly what this will accomplish.

Ms. JACKSON LEE. Well, let me just add, as you keep going down, gentlemen, we will need your advocacy for people to understand that we are not sacrificing deficit reduction, which is one of the issues that the FCC was instructed to use spectrum for, that that priority certainly has to take many, many back steps to the securing of this Nation.

Sheriff.

Sheriff FITZGERALD. Thank you. First of all, as I mentioned earlier, kids today have better communication than any of the first responders do with cell phones being able to send pictures, video. We do not have that in the first responder community.

I have been in law enforcement 34 years. I remember when I first started as a police officer in a city, my first day on the job I was handed a radio. You clipped the lapel mike onto your epaulet on your shoulder, and you went out and did the job.

Today, my deputies have their radio on the side, clip their lapel mike to their shoulder, and they go out and do their job. The communication virtually is the same as it was 34 years ago.

We are now facing an age where we have tremendously improving, rapidly changing technology that gives the capabilities for all first responders to be able to respond in such a way that it is going

to greatly enhance their safety, and, therefore, allow us to better protect the people that we serve.

If you could imagine—just quickly—in the Columbine shooting incident, if you would have had the technology there for streaming video in the school, the cameras in the school, not to mention the phone cameras that the kids have, could have streamed that video to the dispatch center. The dispatch center would then stream that video to the responding officers.

The responding officers could see where in the school this was happening and what the bad guys look like. They would be able to go in and engage that much quicker.

That is just a brief sample of the type of communication interoperability that the D Block will give us.

Ms. JACKSON LEE. Well, one thing—and I just, Mr. Carrow, we certainly should not have al-Qaeda in the mountains of Afghanistan and Pakistan having better communication than we might have.

Add to your response, Mr. Carrow, as to whether or not this would be devastating. Would you add to your response whether or not you believe that commercial carriers are willing to allow public safety to preempt their rights, if you would?

Mr. CARROW. Basically, it was mentioned in a meeting in Herndon, Virginia, back in September, by a commercial carrier, that they are certainly not willing to do that. That is something that we direly need.

To answer your first question to us as a panel, plain and simple, it is a matter of life and death, of citizenry and also first responders. That is about as clear as you can make it.

I appreciate your comments coming in here about the Patriot Act, and so forth. You know, we feel the same way, and we certainly have been advocating this for well over 2 years now in many different battles, many different fronts.

But, you know, it is something that we can reach out, we can grasp it. We know it is the right thing to do. How do we get there?

Well, now we know how to get there. It is pass this legislation, which would not only give us the wherewithal, but give us the funding to make a fully secure National network.

Chairman KING. Time of the gentlelady has expired.

The gentleman from Michigan, Mr. Walberg, is recognized for 5 minutes.

Mr. WALBERG. Thank you, Mr. Chairman.

Thank you to the panel here for being here. Thank you for your service to our country.

There is a lot of talk about a multi-band radio. Will multi-band radios operate on all the spectrum band public safety is using, or just a couple?

I toss that out to you.

Chief PAROW. I think, with the Nation-wide broadband spectrum we have, you know, the final product will be one radio, one band.

Today, we are using multi-bands, and that is where we seem to be running into the problem. We actually have six bands that we are currently using, and one radio cannot necessarily talk to a different band.

Mr. WALBERG. But are these multi-band radios that you are talking of, or just multi-radios?

Sheriff FITZGERALD. These are multiple bands.

One of the initiatives going on now is called the P–25. That is basically talking about digital radios in the 700 and the 800 spectrum. That will give the ability for one radio to communicate across those bands.

The issue is how we are going to tie the link in to the lower channel spectrum bands, to have that communication still within one radio.

The prototype that I had seen—I sat on a Homeland Security Committee, Science and Technology, and they had developed a prototype radio they are sampling now. But that is a $7,000 to $8,000 radio.

My radios, for me to equip each one of my officers, not to mention a bigger department, how much that would cost, the cost is just way too much at this point.

Mr. WALBERG. So these are prototypes right now, if I could just——

Sheriff FITZGERALD. Yes, these are prototypes right now.

Mr. WALBERG. Okay. So, not in production. You are not purchasing them. You are saying $7,000 to $8,000 per radio.

Sheriff FITZGERALD. That is the prototype that——

Mr. WALBERG. That is a prototype.

Sheriff FITZGERALD [continuing]. That I have seen from Homeland Security. Right now, it is still in the working stages of P–25, which is going to provide basic infrastructure to build communications on in the future for multi-band radios.

Mr. WALBERG. Okay. Let me ask another question here, and any who care to answer.

If the D Block allocation to public safety moves forward, do you believe that there will be excess capacity and network for other users?

Sheriff FITZGERALD. Again, that depends. First of all, you have the larger cities, you know, that we talked about, New York, Los Angeles. They may have the need for day-to-day usage of 20 MHz of spectrum for the job that they have to do.

But as you look throughout the rest of America, like where I am from in Iowa, we will certainly have under-used spectrum. The issue will be, when we do have a crisis and emergency, such as the tornado that I described earlier, we will need all that spectrum at that time.

But in the mean time, we will still be able to lease to the commercial providers that spectrum, which they will be able to use on the commercial level, and again, help support financing to continue with the Nation-wide interoperability working with the D Block.

Mr. WALBERG. Leasing is a viable option, even for short periods of time?

Sheriff FITZGERALD. Yes.

Mr. WALBERG. Certainly with no security that they would continue on.

Sheriff FITZGERALD. Well, I would certainly believe that that would be an option.

In the rural areas, like I said, the times that we would absolutely need the 20 MHz of spectrum would be much less than what the larger cities would be needing. So, we would be able to lease that out.

The question comes back, who is going to be in control? When you have an emergency, and you need that spectrum, that is not the time to start looking to see if you have priority.

If a system crashes because there are so many users trying to get on the frequency at that time, how is the tower going to be able to recognize my device, that I am a priority user and I need immediate access? It is not going to be able to communicate with the tower any more than anyone else's service is.

So, if we have dedicated spectrum for public safety, we will control that. In a time of a true emergency and a true crisis, we will be able to take that spectrum and use it, where if it is under a commercial provider, then we will have to gain priority or wait our turn.

Mr. WALBERG. Okay. Thank you.

Let me just press on one more question.

Mr. Simay, you make note on how you hope that a system-of-systems, "approach to emergency communications is adopted Federally." Could you expand very briefly on that statement?

Mr. SIMAY. Yes, just very briefly, as you move ultimately towards the broadband system, you can—voice interoperability remains a very critical component for safety.

One way to leverage the assets we have now is to consider a system-of-systems approach—recognizing that a system might well be county-wide—that does make use of the emerging multi-band radio technology where you could have true interoperability among several bands, versus where you have just separated dual bands, where you are only listening to one at a time.

But you are talking about trading off expensive radios, at least now, with perhaps expensive—or waiting longer for your 700 MHz infrastructure throughout the Nation.

Mr. WALBERG. Okay. Thank you.

Thank you.

Chairman KING. Thank you, Mr. Walberg.

Before I recognize the gentleman from Michigan, I would like to tell the panel, I will have to leave the hearing right now. Mr. Walberg has agreed to chair the balance of the hearing.

But I would like to thank each of the four witnesses for your testimony today.

Like the Ranking Member, I was struck by the fact that with all of your years of experience as first responders, you all strongly support this legislation. I think that level of unanimity is really vital, and it is going to help us tremendously as we go forward to make our case. I would just thank you for your testimony.

We really tell you that your work is not done. If you could stay with us throughout the balance of this fight, it would be extremely, extremely helpful to get this legislation through.

With that I thank you.

I recognize my friend from Michigan, Mr. Clarke, for 5 minutes.

Mr. CLARKE of Michigan. Thank you, Mr. Chairman.

Sheriff Fitzgerald, Chief Parow, Sheriff Fitzgerald, I am glad you outlined how expensive it is to actually upgrade our systems, especially to make sure that we have voice and data interoperability.

I represent metro Detroit. Our first responders really do not have the resources right now to fully be prepared for any type of emergency, especially because the State and local funding has dropped so much.

What do either one of you recommend is a good way to address the build-out costs for these systems? Maybe some examples of what you have done yourselves in your own departments and what you have heard others have done, or maybe what you would propose could be done. Ratchet up. Fund these systems in light of our tough fiscal times, where our State and local funding agencies just do not have the resources.

Sheriff FITZGERALD. Well, of course, one of the first things that any agency such as myself, such as my agency does is, we first search and see what Federal grants and programs are out there that are available. Excuse me.

In Story County, some years ago, we went to the 800 system. Now, as we are talking about the D Block and the build-out for communication Nation-wide, coast-to-coast, and border-to-border, we are talking about building the infrastructure, the backbone.

It is not going to give the technology equipment to every agency in order to buy the radios and everything that they will need. But the infrastructure will be there, such as it is right now.

In my agency, I have still got to purchase the radios. I have still got to purchase what communication devices that we have for our personnel. But the broadband plan will be able to allow us to plug into that system.

So now, where we only have voice communication capabilities on various bands in my county, by plugging into a Nation-wide system, we will now be able to have voice, data, streaming video. We will be able to send blueprints. I mean, and this will be to the laptops in the squad cars, in the fire trucks, and in the ambulances.

Mr. CLARKE of Michigan. Thank you.

This is a separate issue.

Mr. Carrow, I know your organization is international. You have a lot of Canadian affiliates.

The border that I represent, the Detroit River, it is patrolled by the Coast Guard. So, if an emergency arises, we have got to coordinate with the Canadian authorities on how to best address these threats.

Can you speak on the differences between the U.S. system and Canada's communications systems, and how we can improve interoperability between those two countries' systems?

Mr. CARROW. Well, what I would say is, what I know to be true and unfolding in Canada as we speak, are the news reports and what I hear from my colleagues at APCO Canada, is they are kind of following what we are doing in the United States very closely. They would like to follow that in lock step with the exact same 700 MHz spectrum.

Also had a report come out looking for the same thing that we have reported in the United States, that 10 MHz is just not

enough, looking for a full 20 to run a network for first responders, emergency responders.

So, with that being said, if that does unfold, then you would have interoperability, not only in our entire Nation, but across the border for data. Because again, we will reiterate that, that this is designed to start out as a data network, with years down the road when it matures, to become a mission-critical voice network, as well.

Mr. CLARKE of Michigan. Thank you, Mr. Carrow. Thank you, gentlemen.

Mr. Chairman, I yield back.

Mr. WALBERG [presiding]. Thank you.

Turn to the gentlelady from California, Ms. Richardson.

Ms. RICHARDSON. Thank you, Mr. Chairman.

First of all, I want to thank Mr. Simay for coming. I apologize for not being here to properly introduce you earlier. I had a mandatory meeting that I had to attend to.

However, according to my staff, I wanted to give you an opportunity to expand a little bit more on the LA–RICS system, because as staff is still here present, unfortunately, the official Chairman of the main committee is not here.

I think it would be very helpful, what we have done in the LA–RICS system, if you could describe how that governance structure could be extrapolated, for example, on a Nation-wide basis. So, I wanted to give you a few moments to be able to do that.

Mr. SIMAY. Congresswoman Richardson, I would be happy to do that, and thanks again for inviting me.

Around 2005, it had been evident long since 9/11 that interoperability was needed. Of course, Sheriff Baca had introduced the LARTCS system years before, which provided a degree of interoperability, particularly when the systems were less digitized.

By 2005, it was apparent that a county-wide approach was needed. You have a county with 88 different agencies, with deserts, mountains, shorelines, even an island population of 10 million. So, it was a daunting task, equivalent, perhaps, to achieving voice interoperability for a small country in terms of population and geographic diversity.

There had been an earlier regional interoperability, subregional within Los Angeles County known as ICIS. It had joint powers authority. It seemed evident that a JPA, or a joint powers authority, with the power to issue bonds and to do financing, as well as to coordinate, would be needed.

So, after—there were initial consulting studies from RCC Consultants that showed that there was a great deal to be gained from uniformity of standards, from the sharing of facilities that might otherwise be duplicated if pursued on an individual basis. So was initially born LA–RISC that then became LA–RICS by the time it became a full joint powers authority.

Just to give you an idea of the composition of the board, it is quite comprehensive. It goes, there is county representation. There is also representation of the Los Angeles area, fire chiefs association, the police chiefs association, the contract cities association—contract city being cities that rely on the county for police and fire, and a number of cities rely on the county for one or the other—

and then, a number of at-large stakeholders for independent cities, fully independent or partially independent.

So, you have all these constituencies now that meet monthly as a 17-member board. That membership is echoed in the various committees. There is an operations committee. We very much have an operational focus for LA–RICS. They meet the same day as the technical committee, and there is a lot of crosstalk and pollination between those two committees.

Recently, the finance committee, which I chair, has had a joint meeting with operations and technical, because now we are talking, does it make sense to phase certain capital improvements and certain LA–RICS activities, how best to meet the daunting challenge of financing the gap between the grant support that we have given them, for which we thank Homeland Security.

But the estimated cost, which is still—which our nominal figure is $600 million. So, we have a several hundred million dollar gap that we are wrestling with. As was mentioned earlier, local and State and municipal funding is particularly tough these times.

But what we have now is a formal structure that allows us to debate many issues, the proper use of spectrum, what our standard operating procedures are and how to harmonize among the different agencies, considering the scenarios.

Perhaps one of our best achievements was securing a BTOP grant. Initially, we were going to have a very modest data system that would just allow us to do some warrant checks and some license checks. Now we are going to be able to help pioneer the very system that was talked about earlier, the streaming video and much more graphics applications.

Ms. RICHARDSON. Thank you, sir.

So, what I would like to do just for the record is to ask that staff would consider the structure that has already been put in place, and for the record to note that the county he is referencing, L.A. County, is the largest county in the United States.

So, rather than us reinventing the wheel and having various departments to do pilots and to figure out what systems can work, we surely should consider one that is already in place in the largest coordinated agency in the country.

Thank you very much.

Mr. WALBERG. I thank the gentlelady. I am sure that will be duly noted.

Well, I want to thank the witnesses for your time, your valuable testimony, your experience that you bring to the table.

I certainly want to thank Chairman King for holding hearings like this where we are definitely talking about those things that matter, to the security, to the liberty, the on-going future of this great country that really needs to develop a seamless approach that assures Americans of their civil liberties being protected, but also that they are protected.

The Members of the committee may have some additional questions. I thank the Members who have questioned. But any additional questions for witnesses, we hope that we can expect you to respond to these in writing. The hearing record will be held open for 10 days.

So, without objection, the committee stands adjourned.
[Whereupon, at 11:38 a.m., the committee was adjourned.]

APPENDIX

QUESTIONS FROM CHAIRMAN PETER T. KING FOR CHIEF JOHN E. "JACK" PAROW

Question 1a. Would your association accept the preemption or priority use offers of the vendors regarding the use of the D Block?

Answer. No. Because the vendors have told us that they will not provide ruthless preemption. In public safety, an emergency transmission must go instantaneously—not put into a queue. The carriers are for-profit corporations and are rightfully concerned with customer service.

Question 1b. What are your specific recommendations preemption authority on the D Block?

Answer. Priority access in LTE has several levels and at the moment pre-emption is not one of them. Priority access slows down other users in favor of those who have priority. However, in order to get priority, a field unit must be able to communicate with the network in order to request priority access. This is the big fallacy in priority access. Each mobile device requesting priority access must have access to the network via what is called the signaling channel. A unit transmits a request which is then relayed to the network. However, in many cases when the networks are overloaded with traffic, the signaling channel is also overloaded and it is very possible that the request for priority access will not even be heard by the network, let alone acted upon. Even with pre-emption, that is, "kicking other users off the network," you still need to be able to get the request through to the network and this is where priority access fails. Thus the only viable solution is for public safety to have a dedicated broadband network which it controls and sets priorities among and between public safety users.

Question 2. What is the cost impact of building two separate network systems as compared to building out on a continuous 20 MHz system?

Answer. This is a leading question. The answer is that it is less expensive to build the system right the first time using 20 MHz. It costs about the same to build a 10 MHz LTE network as it does a 20 MHz network. But if we don't get the contiguous D Block, which is in the same band plan as the current public safety license, then new spectrum will be allocated to public safety in a different band. This will significantly add to the cost of devices since we will now need dual band radios. Further, the characteristics of a different spectrum slice could well be problematic for public safety first responders.

Question 3. Some groups strongly advocate for requiring interoperability across all 700 MHz broadband spectrum. They argue that in terms of public safety, this will make it technically feasible for public safety users to roam onto commercial networks, provide redundant systems to provide additional capacity or backup in the event of a disaster, and greatly increase the scope and economic scale for devices, therefore reducing the cost to public safety users. Do you agree with this statement?

Answer. No. First, the 12 MHz of narrowband voice in the upper 700 MHz band for public safety cannot be mixed with broadband. Unacceptable interference would occur. Second, public safety roaming onto commercial networks was the vision of the FCC's National Broadband Plan which has since been superseded by White House support for allocating the D Band directly to public safety. Roaming is not a good option for public safety since individual roaming agreements will have to be executed—and that is very limiting—and priority once public safety gets on a commercial network is not workable. As for devices, public safety will maximize to the extent possible open standards to keep costs down.

Question 4. Chief Parow, State and local governments, first responders, and emergency management officials frequently have mutual aid agreements in place to enable assistance from surrounding jurisdictions during an emergency. You note in your testimony that public safety licensees may only operate in their area so as not to interfere in the communications of another jurisdiction on the same frequency.

Answer. This is true. Mutual aid agreements are governance models and have to be negotiated. Multiple issues are present. One of the issues would be consideration of the frequencies used in the mutual aid area to ensure there would not be interference. Ensuring that public safety communications systems don't interfere with one another is a function of frequency coordination as part of the FCC licensing process. The same care must be exercised when mutual aid is being planned.

Question 5. Chief Parow, you note in your written statement that the D Block structure, as envisioned by H.R. 607, is the only configuration that will ensure public safety's ability to build this interoperable broadband network and that this network must be under public safety control.

Answer. True on both counts. The D Block is immediately adjacent to the currently licensed Nation-wide public safety spectrum. And, it is in the same band class. This will avoid the need for dual band radios which add to the cost of devices and can present operating challenges. And, yes, public safety must have control of the network for precisely the reasons I set forward in my testimony. We cannot have commercial providers with a profit motive deciding what is and what is not a public safety priority. They are simply not equipped to make those decisions.

Question 6. 9/11 and Hurricane Katrina definitely demonstrated that we must ensure our plans include worst-case scenarios. The FCC analysis is that in the public safety world communications networks are typically designed to support the worst case. This means that for the normal operating environment there will be significant excess capacity which, they argue is inefficiently used by public safety. Do you disagree with the approach of building our public safety communications networks for the rare time it needs to have a much bigger capacity than normal?

Answer. Yes. There are those who say our current LMR voice systems are inefficient. There is not always voice traffic on the frequency. Commercial frequencies carry programming the entire time they are on the air. Not so public safety. Public safety frequencies are used primarily when there is emergency traffic or some other operational reasons. It is much like our fire engines in the firehouse. They do not run up and down the road with red lights and sirens all the time. Mostly, they are in the fire house staffed and ready to respond to an emergency. The public safety model because of its mission is completely different from for-profit commercial.

QUESTIONS FROM HONORABLE LAURA RICHARDSON FOR WILLIAM "BILL" D. CARROW

Question 1. Under President Obama's recently announced Wireless Innovation and Infrastructure Initiative, the administration proposed a one-time investment of $5 billion and reform of the "Universal Service Fund" to provide at least 80% of Americans with access to 4G high-speed wireless, including most rural communities. The administration believes that by extending a high-speed broadband network to rural communities, it will also be able to increase interoperability among rural public safety agencies. What are some of the challenges that public safety agencies in rural communities face today without access to a wireless broadband network?

Answer. In an era where police, fire, and EMS officials in areas all across the country are dealing with serious budget shortfalls, and subsequent layoffs, the inability to wirelessly transmit data in the form of an incident report back to central command is hampering how the remaining public safety officials efficiently manage their tasks.

Take for example, two police officers in two similar rural jurisdictions. Officer "A" does not have the ability to wirelessly transmit biometric information (i.e., facial recognition) relating to a traffic stop back to his central command post. With no knowledge of the suspect he just pulled over, the officer approaches the vehicle operator and engages the driver in a dialogue. The officer issues a ticket for excessive speeding, his fourth ticket of the day. The driver provides the officer with false information including a picture ID and insurance card. When the officer radios into dispatch the false information no warrants are found. He sends the speeder along his way, and then turns around to drive the 40 miles back to his central command to fill out the paperwork for the 4 tickets he issued that afternoon. Instead of being able to fill out his report on the road and send it wirelessly back to his dispatch, Officer A is forced to drive back to his station, leaving one less officer on the road. Meanwhile, the officer later finds out, through a more comprehensive and exhaustive hands-on query once back at dispatch that the driver who was issued the officer's last ticket had two outstanding warrants, including one for felony gun possession. Had the officer known this fact, he would have apprehended the suspect, and would have found a semi-automatic weapon lodged under the front seat of the vehicle. Later that day, the driver commits a serious crime using the illegally-owned weapon.

Now we turn to Officer "B" who, under the same fact pattern provided above has access to a secure wireless broadband network. During a routine traffic stop, the officer is able to take a picture of the driver and transmit the picture along with the driver's license number and license plate of a violator she's pulled over back to the station on a public safety network. Seconds after the information is submitted, she receives a real-time message on her broadband radio informing her that the individual identified by the license number does not match the picture of that was transmitted and the driver has two outstanding warrants, one relating to a felony weapon possession. Not only does the officer now know that she must bring the driver in, but that she must use extreme caution when handling the situation. She is alone with the driver in a rural part of the State without any back up and the nearest officer is miles away. She flips the switch to the video camera in her car that instantly transmits to dispatch the video of the pending arrest. Dispatch is able see the situation as it unfolds and sends the necessary support to assist the officer in the apprehension of the criminal. The arriving units, which could be from a neighboring jurisdiction, are able to see the video because they are on the same interoperable broadband network, and know instantly how to control the situation and assist the officer as they arrive on the scene. This information not only may save her life, but she was able to bring in a dangerous individual off the street—all without having to run back to the main station to fill out a report.

In just this one example of how broadband in rural communities can benefit public safety agencies. It keeps public safety officers on the street rather than commuting to and from the station, it catches offenders who would otherwise go free, and, most importantly, it keeps our Nation's first responders safe from possible harm.

Question 2. At the time of the attempted auction of the D Block, the cost of building the mobile broadband network under the public/private partnership proposed by the FCC was estimated at from $18 billion to as much as $40 billion. If the D Block is reallocated to public safety, what do you estimate the total costs to be, including user equipment such as radios and other hand-held devices?

Answer. We agree with the FCC's more recent statement found in the March 2010 National Broadband Plan that states the build-out of a 10 MHz (or 5×5) broadband network will cost approximately $6 to $10 billion over the next 5 years. If the D Block is allocated to public safety, thereby creating a contiguous 20 MHz swath of spectrum, the additional effort and materials required to build out a 10×10 network would cost little to no more than the 5×5 network. It would only take a software upgrade to public safety's towers to transform a 5×5 network to a 10×10 network; no additional hardware would be needed.

With that information in mind, we believe that the numbers discussed in H.R. 607, S. 28, S. 1040 and the bipartisan discussion draft recently circulated by Senators Rockefeller and Hutchison that will eventually become S. 911 would all adequately help to cover the cost of the build-out and sustainment of the network. As for user equipment, including hand-held devices, we believe that the broadband market will allow for greater competition, a larger user base, open standards development and significant new applications that will drive down hardware costs and software application costs while realizing cost savings through more remote productivity, efficiency, and effectiveness of field workers in public safety, as well as those secondary users of the network. Grants, State, and local budgets, public and private partnerships, and secondary user fees will help to fund on-going operational costs, and at some point, migration from LMR to broadband will free up additional dollars toward broadband.

It should be noted that with a 10 MHz network, the ability to leverage excess capacity with second and situational responders, including utilities and critical infrastructure companies becomes minimal to nonexistent. This is a critical part of the network equation. We not only want to be good stewards of the spectrum we use, but we want to be self-sustaining, and not come back to Congress seeking additional funding through the transition in future years. With 20 MHz of spectrum, there are a number of partnerships that become more viable, and that we believe we can leverage not only with the initial build-out, but during the life-span of the LTE data network. These partnerships will help create a constant and substantive funding stream to help continue the build-out as well as maintenance of the network. With a 10 MHz system, public safety will be the only users on the network, and may likely have to look for additional funding to help maintain and operate the network in the future.

It should be noted that the cost of the radios and hand-held equipment is expected to be far less than the cost of current land mobile radio equipment. With open-source standards that leverage commercial LTE technologies, we believe the cost of radios and hand-held equipment would be between $600 to $1,000 dollars, where

as today, public safety agencies are paying on the average of $3,000 to $5,000 for their mobile radios and considerably more for their transmitters and receivers. Once fully implemented, the public safety broadband network would provide for considerable savings resulting from lower-cost radios and new competition. The question should not be how much user equipment such as radios and other hand-held devices will cost but instead how much will local and State public safety agencies save as they transition to broadband.

QUESTIONS FROM CHAIRMAN PETER T. KING FOR SHERIFF PAUL H. FITZGERALD

Question 1. On the topic of logistical support, Mr. Simay notes that most police and fire departments are too small to contain their own logistical support and they depend on public works departments and the Red Cross to assist them during a time of need. Sheriff Fitzgerald and Chief Parow, based on your experiences, should we increase the role of utilities and non-Governmental organizations in public safety communications?

Answer. Utilities and non-Governmental organizations play an important role in public safety communications. However, public safety must retain control of this network and be in the position to authorize and or assign who and when they are given access to the network in times of crisis.

Question 2. Would public safety be open to the idea of forming public-private partnerships with commercial carriers?

Answer. The public safety community strongly supports the idea of forming public-private partnerships with commercial carriers. It will be critical for the success and build-out of the Nation-wide public safety interoperable mobile broadband network that these partnerships exist. The partnerships ensure that public safety is able to build-out off of existing infrastructure to not only help reduce costs but speed up implementation. In particular, partnerships with smaller carriers in rural areas will be key to ensuring build-out in rural areas and reduce the costs associated with build-out in rural areas.

However, in regard to public-private partnerships, it is important to note that public safety must have control over the broadband network and set the terms for partnership agreements with private entities. Public safety needs to know that we have access to the network when we need it and on our terms in emergency events, rather than being at the mercy of the industry carriers. This is why the allocation of the D Block to the public safety community is so important.

Question 3. Some groups strongly advocate for requiring interoperability across all 700MHz broadband spectrum. They argue that in terms of public safety, this will make it technically feasible for public safety users to roam onto commercial networks, provide redundant systems to provide additional capacity or backup in the event of a disaster, and greatly increase the scope and economic scale for devices, therefore reducing the costs to public safety users. Do you agree with this statement?

Answer. To obtain Nation-wide interoperability public safety must have its own robust, mission-critical network and cannot rely on roaming onto commercial networks for emergency operations. I believe that a system which is coast-to-coast and border-to-border will not only ensure redundancy and greater capacity or backup in the event of a disaster, but will also provide for a stronger public safety grade infrastructure standard instead of the weaker commercial grade standard allowing the network to holdup in conditions much harsher than would be the case for commercial carriers. One Nation-wide system would drive industry to create and build fewer devices which would be in demand by first responders and others operating on a single network throughout America and therefore driving down the costs for these devices to a much more affordable cost to public safety providers.

Question 4. You have supported the establishment of a public safety network as being essential to making sure that police, fire, and EMS providers have a secure communications network to respond to local and National emergencies. One of the groups we have heard from in support of this effort has been the burglar and fire alarm industry. Do you believe they play an important role as the eyes and ears of public safety providers?

Answer. The burglar and fire alarm industry play a very important role as the eyes and ears of public safety. With new technologies available and with the data and video capabilities of the Nation-wide public safety interoperable mobile broadband network, burglar, and fire alarm companies will be able to transmit data and video images to responding public safety. This will enable public safety to not only quickly respond to the exact location of an incident but recognize and visualize any potential danger or risk.

QUESTION FROM HONORABLE LAURA RICHARDSON FOR SHERIFF PAUL H. FITZGERALD

Question. Under the status quo of emergency communications, what governance challenges do you believe need to be addressed at the Federal level, and among State and local government agencies?

Answer. There should remain a single Nation-wide broadband licensee. Currently, this license issued by the FCC has been granted to the Public Safety Spectrum Trust (PSST). Should this governance model change, there should be an appropriate transition to the new governance model whatever that may be once it is funded and operational. Until this transition can take effect, the FCC should support and fund the PSST.