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Transportation and Telecommunications Committee  
December 05, 2014

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[LR537]

The Committee on Transportation and Telecommunications met at 1:30 p.m. on Friday, December 5, 2014, in Room 1113 of the State Capitol, Lincoln, Nebraska, for the purpose of conducting a public hearing on LR537. Senators present: Annette Dubas, Chairperson; Lydia Brasch; and Dan Watermeier. Senators absent: Jim Smith, Vice Chairperson; Galen Hadley; Charlie Janssen; Beau McCoy; and John Murante.

SENATOR DUBAS: Good afternoon. If we could have everybody take their seats. I know we're running a little bit behind our schedule starting at 1:30, so I think it's time that we get things underway. I want to welcome you to the briefing this afternoon on LR537 with the Transportation and Telecommunications Committee. My name is Senator Dubas, Chair of the committee. We don't...we're expecting a couple more members of our committee to show up today. I hope that that's the case. Lots of things going on at this time of the year, so it is a little more difficult to get everybody together. But appreciate those of you who have...came to hear the briefing today as well. I will introduce the committee members that are here with us today. We have Senator Lydia Brasch from Bancroft to my far right; and next to her, Senator Dan Watermeier from Syracuse. The other senators, Senator Smith who's the Vice Chair of the committee and Senator Murante will possibly be joining us a little bit later. To my immediate right I have my research analyst, Anna Eickholt, and to my immediate left is my administrative assistant and committee clerk, Anne Hajek. We are very fortunate in the Legislature to be served by a great program of pages, and our page today is J.T. Beck. He's been the page for the Transportation Committee in the past. We really do appreciate their service with us and what they do to help us keep things running smoothly. Since we don't have a lot of testimony today, I don't know that we'll have J.T. jumping up and down out of his chair, but if the presenter needs anything or if anybody needs anything, please just let him know and he can be of assistance to you. I don't have to go through the usual housekeeping because we don't have testimony, so to speak, today. We will have you fill out a testifier sheet when you're finished just so that we can have that. Oh, very

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good. You're ahead of me then. All right. We have that to help with the record. I would ask that if you have any cell phones or anything like that with you that you turn them to silent or off just to keep from interfering with the recording and with the briefing itself. I would like to take a moment to welcome. We have a group of seniors from Omaha South with us today. They've been in the building, I understand they just finished a mock hearing on a bill dealing with texting while driving, an issue that's come before this committee in the past. And so we appreciate you being with us today and your interest in government. And who knows. We are probably looking at some future state senators right now. So welcome and I hope your time here in the Capitol has been a very productive one for you. I will just take a quick moment of personal privilege, if I may. This is my last official duty as the Chair of the Transportation and Telecommunications Committee. I'm leaving the Legislature at the end of this year and, therefore, leaving this committee and my capacity as Chair of this committee. I've enjoyed working with many of you who are in the room here. My colleague, Senator Watermeier and Senator Brasch and all of my colleagues in the Legislature, it's been an incredible experience. I've enjoyed serving on this committee. I've learned a lot about transportation and telecommunications issues. The topic that we're going to be hearing about today is one of critical importance to the future of our state, and so I know that my fellow colleagues and future committee members will pick up this ball and keep it rolling forward. So, again, I just want to thank everybody who's helped me in this capacity over the last several years and I will miss you but I also want to wish you all the very best. So with that, we will begin with our briefing on LR537, Next Generation 9-1-1 in Nebraska. We have Mr. David Jones with Mission Critical. They have been working on this issue for, gosh, almost the last two years I think it's been, hasn't it? Close to that anyway. [LR537]

DAVID JONES: I believe so. [LR537]

SENATOR DUBAS: (Exhibit 1) And he's here today to...will do a little bit of a PowerPoint presentation talking about the study and the work that they've done to help us understand where we are at and possibly where we need to go in the future. So the

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first...get my notes here correct so that I'm following along with you in the same fashion. Just want to make sure that I've covered all the bases here before we get started. I will just give you a few points of clarification so that everybody knows that we're talking about the fact that nationwide 9-1-1 is moving from copper wires to public safety grade networks capable of transmitting voice, text, and data, accessing more information to provide first responders with helping with emergency situations. This is becoming I think the vast majority of the people think if they pick up their cell phone and hit 9-1-1 they're going to be able to be traced where they're at, they're going to be able to get immediate access. And it doesn't work quite the way the general public thinks it does. It's our goal, hopefully, to get it to that point and maybe even better. So when we talk about 9-1-1, we're talking about communication from the public. The person having the emergency are attempting to call 9-1-1, transferring that call to a public safety answering point, PSAP. You'll hear lots of acronyms when you're in the telecommunications industry, and PSAP is one of those acronyms. They'll reach a dispatcher there and that's where they will convey the information. So, again, what we're looking at here is what do we need to do to bring that type of communication up to where it really needs to be to help us serve. It definitely is a public safety issue. So with that, I will turn it over to Mr. Jones and let you begin kind of walking us through these things. [LR537]

DAVID JONES: (Exhibit 2) Well, Madam Chair, thank you very much for this invitation today. My name is David Jones. I'm a principal with the public safety consulting firm entitled Mission Critical Partners, and we have been engaged by the Public Service Commission to support the state of Nebraska as it studies and considers its options in terms of Next Generation 9-1-1. What I want to talk about today is to provide some high-level information for you as we are talking about what exactly is Next Generation 9-1-1, how it evolved to this point. And then we're going to begin to get into some specifics as to the benefits of Next Gen 9-1-1 and how it applies to the citizens and visitors of the state of Nebraska. This term here, this state-level ESInet, that's one of those words that I'll explain to you what that means because it can be very complex, as the Chair mentioned earlier. But we're going to talk about what those benefits are. We're

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going to talk about the partnership that the PSC has sought with Mission Critical Partners. And then as a result of our support, we're going to talk about our observations and then talk about some very specific needs that have been noted for the state of Nebraska as it considers its plan to move forward. So what is Next Generation 9-1-1? And I'm going to talk about two primary points here today in terms of what is Next Gen 9-1-1. First off, it's important to remember it is a wholesale change in how citizens will access emergency services in our community. You'll notice I didn't say call 9-1-1 because we are talking more than a little old telephone call to 9-1-1. We are talking about different access points into this Next Generation 9-1-1 system that will allow for the expanding technologies. And I'm going to talk about that here in just a minute. But it's important that as we make this transition from what is often referred to as the legacy phone system--and that essentially is, you know, copper wire--we are making this transition to IP...what is known as IP telephony or Internet Protocol telephony. I want to stop right there and make sure that when I use the term Internet Protocol, we are realizing that that is an operating protocol. We are not talking about the public Internet. Next Gen 9-1-1 is based upon managed, private, secure IP networks utilizing IP architecture when it's important to understand that we are not talking about the use of the public Internet. There may be some access points that utilize the Internet to provide information to the Next Gen 9-1-1 system, but we are not talking about use of the public Internet. This is a private, secure, public safety grade, emergency network that we are going to be using. So as we are making this transition, not only does it impact obviously 9-1-1 but the overall architecture for telecommunications is making this change away from, again, what is referred to as legacy and is moving...has already begun its movement towards IP telephony. And it's important that we understand that because not only is this a transition that is going to take some planning and then implementation that could take a number of years, but it's this effort to take what has always been a very successful 9-1-1 system as we realize it is a very productive 9-1-1 system and it has worked well. We started with wire line phones, obviously, back in the seventies really, and that began to mature into the eighties. And then in the late eighties and early nineties we had to add wireless 9-1-1, and that greatly taxed that 9-1-1 system. But we

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made it work. We pounded a square peg into a round hole, but we made it work. It took us a long time. It took us about 15 years actually to develop the standards and then implement those standards and implement these systems over a period of years throughout the country. And I can't say that we're completely done now. But the point is we took a system that was developed in the late sixties, implemented in the seventies, and adapted it for wireless. And it worked reasonably well. In terms of wire line, it worked very well. We had 98-percent-plus accuracy in being able to determine where you are when you needed help. Wireless, we took a significant hit. It is...by its nature, it was much more difficult to determine that location and, in fact, at the federal level, wireless location accuracy is still subject to debate in this country. It is still being sought to improve wireless location accuracy. Then in the early 2000's come this thing that we now refer to as VoIP, and again we hammered that square peg into that round hole and we made it work most of the time. That identified, however, the need that the current 9-1-1 system can be adapted no more. It has fulfilled its purpose, but emerging technology such as the smart phones that you carry in your pockets have much more capability than does the 9-1-1 system in place here in Nebraska and throughout the country. So we have to make this transition. The market is making this transition. And the bottom line here is that we have to ensure that we are meeting the expectations of our constituents, of our customers. And if they have the belief that they can access 9-1-1 via text or via the newest home application that they have from a VoIP service provider, we have a responsibility to meet that expectation. So as we make this move, we have to ensure that we accommodate, obviously, wire line, wireless, VoIP, and it's important that we are focussing on how do we ensure that this system is capable of adapting to emerging technologies, even those emerging technologies that we may not have defined right now, and I'm going to talk more about that in just a minute. As we move forward this, I feel it important to talk about...and that emerging technologies is really being driven behind this concept of multimedia. It's often referred to as text-to-9-1-1, but there are other multimedia applications such as the ability to send still photos, the ability to send video, the ability to share information. That is important as we are looking into this 9-1-1 system. So first point was talking about it is a wholesale

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change in how we as a general public access emergency services. But it's also...the second point, it's also important to realize that this is a fundamental transition away from a regulated marketplace to a competitive marketplace. The 9-1-1 system that is in place in this country is a regulated by state PSCs and PUCs. There's a guaranteed rate of return on behalf of the service providers and essentially as a local government official, all I had to do was to have a funding stream in which I could pay for my 9-1-1 systems service provider and they took care of everything else. I paid whatever the rate was, whatever the state had determined was the tariff, and there was no competition. All I did was pay the telephone company to provide this service. And it was very well provided. As we were making this transition, however, to IP telephony which allows this transition to a competitive marketplace, we are talking about a number of different and new service providers into this discussion. And I believe that we have a responsibility to take advantage of what competition can bring to this provision of 9-1-1. However, and that's the reason for my second bullet here, with this competition comes added responsibility on behalf of state and local governments that are administering 9-1-1 because, as I said, under the legacy system I had one 9-1-1 service provider and they did their job very well. The standards are in place, they followed them to the nth degree, and they knew how to provide, they know how to provide 9-1-1 services. But as we are taking advantage of a competitive marketplace and looking at new service providers into this, that places an onus upon state and local government authorities in managing those contracts that are coming from these new service providers, and that's important. So I feel it important to stress, while we have a responsibility to take advantage of the competitive marketplace, that can result in cost-efficiencies and operational efficiencies. With those efficiencies come responsibility. And all of us need to ensure that we're looking at this with eyes wide open as we are making these decisions. So this was a slide. I have a few slides here that are very busy, so I'm not going to spend a whole lot of time going through them. But what I wanted to talk...just show here was this evolution of 9-1-1. And it started, as I said, back in the seventies and early eighties, 9-1-1, some people refer to it as basic 9-1-1. We are talking about analog phones in your businesses and in your homes where once we went beyond basic and moved into enhanced 9-1-1,

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we began to have what we refer to as ALI, that Automatic Location Information, and ANI, Automatic Number Identification. Actually when 9-1-1 first started, if we went into E9-1-1 it was purely that number. That was the only thing we had when we first started 9-1-1 when it became enhanced. Then we got the full enhanced 9-1-1, which was that Automatic Location Information. Then as we move into the E9-1-1 concept, again, we were very good on a wire line basis because it was based upon telephone company billing records. We knew very accurately where that call was coming from. That accuracy rate was somewhere between 98 and 100 percent. You never have full 100 percent, but it was very accurate. Then as we moved, as we developed enhanced 9-1-1 and added wireless location to that, we adapted the 9-1-1 system to accommodate that. At the beginning of wireless 9-1-1, we had no location information. We could only base it upon what the caller was providing the 9-1-1 telecommunicator. But when they are not able to share that information, it quickly became apparent that we had to have a means in which to locate them. So we developed that, again, it took us a long time, and some would argue that we...as to how successful we have been because of the time period involved. It is still an issue for consideration today in terms of how we improve wireless location accuracy. But what is important to remember is that wireless calls now make up about 80 percent of all 9-1-1 calls made to 9-1-1 in the country, somewhere between 70 and 80 percent. So as a provider, I have to ensure that my service can provide support to 70 to 80 percent of those calls that I am answering and that I am providing service to. And then in turn, how do we ensure that the first responders--police, fire, and EMS--how they get that same information. Then we take this, moving this from E9-1-1 into Next Gen 9-1-1. And the basic thing I want to use there is that it is...calls can be accepted from any device from anywhere at any time. And when I say calls, I am referring not just standard telephone calls but I am referring to ways that they can access emergency services. And what's important is how do we share that information with the first responders because they are providing the help that the citizens are looking for when they call 9-1-1 or when they access 9-1-1, any device from anywhere at any time. This is a slide and this, obviously, entire slide deck is a matter of the record for your review. And so I just wanted to point out some core capabilities in the 9-1-1 system and to

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compare it with how we do it today versus how we do in the Next Gen 9-1-1 scenario. And I'm not going to go through each of these because I've talked about a number of these already. But one in particular, there are a few in particular that I want to talk about. First off, is the caller location and call routing. You'll notice I remember when I said that we were very accurate with wire line. We were able to identify those because of billing records. Those were static and those were predefined. That was very much challenged with the advent of wireless calls, but we still developed a way that got us information first about the location of the tower off which 9-1-1 calls were being transmitted. And then as the technology matured and improved, we were able to get within a reasonable accuracy rate of the actual X and Y coordinate of the caller himself at varying levels of accuracy. Again, that's still an item for consideration at the FCC right now and is certainly something that is looking to be improved. What is important? Why that is important is because the role of GIS data, geographic information system, the data from state and local resources of GIS data is absolutely core to a properly functioning Next Generation 9-1-1 system. That is going to require a lot of effort at the state and local government arena and is going to...could require significant expense. But it is absolutely vital to the functioning of the Next Generation 9-1-1 system that that GIS data be accurate and that it be relevant to the 9-1-1 call. Rather than having a static and predefined record, we're going to have dynamic GIS data that is going to determine how that call is routed, that it's routed to the proper PSAP, Public Safety Answering Point, so that we can have the appropriate police, fire, or EMS response. So GIS data, in the wireless world, GIS data was a nice-to-have because we were allowed to plot it on maps and so we could see where that caller was. In Next Generation 9-1-1, GIS is moving from a nice-to-have to an absolute requirement because it is a core function of Next Generation 9-1-1. We have to have that accurate data that typically is provided at the state and local government arena to serve as the database upon which Next Generation 9-1-1 will function. I've already talked about the network architecture about how we're making this transition from the public switch telephone network, your copper wire, to a managed, private IP network. I've talked about that this is not the public Internet. And then the last point is infrastructure and interfaces. While there are



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standards that have long been crafted and adhered to, it is the equipment that goes to support 9-1-1 in the legacy world is largely proprietary. As we are making the transition to IP telephony, we are talking about equipment and operating protocols and operating standards that are more open standard based, which means that I am not as a procurement of 9-1-1 related equipment. I now have options upon which equipment that I can purchase. I am not just limited to what my telephone company is providing. I now have options. Again, this is a part of that discussion earlier about making the transition from a regulated marketplace to a competitive marketplace. I have three slides here that are...I'm not just going to spend time. They're for your information. But I wanted to provide the call flow information of...in the legacy environment and the transition environment and in the full Next Generation 9-1-1 environment. No one believes that this is going to be a flash cut. Some have predicted this could take as long as ten years for a full transition to occur at the state level and at the federal level. Some states have taken a much more aggressive stance. I'm familiar with one state that has stated that their intention is to complete this transition in one year. That's a very aggressive plan. It hasn't come to fruition yet, but that is this particular plan that the state is moving forward on. The point is and the reason why I pointed these three different slides is you have the way, the call flow, the way 9-1-1 calls are made today. We have a diagram here that demonstrates how it will be made in a transition process. And then ultimately we have a call flow on how it will work once this system is fully implemented here in this state. So, again, I'm not going to go into these components. This is for your information, and as questions arise we certainly can answer them. So what are the benefits to the state of Nebraska as we consider this ESInet. And, again, an ESInet is a term that is Emergency Services IP enabled network. Emergency Services IP enabled network, commonly referred to as an ESInet. So a state-level ESInet. What are the benefits? Well, first off, I felt compelled to put this point about text-to-9-1-1 primarily because it is receiving quite a bit of public attention these days. In and of itself though I want to be clear, text-to-9-1-1 is an application of Next Generation 9-1-1. Do not think of it as Next Generation 9-1-1. It is one of many applications, but because of public demand and public debate you are now seeing options that will allow you to implement text-to-9-1-1

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on our legacy environment that will then transition into the Next Gen 9-1-1 environment. I felt it important to include here because the sooner that a respective state or respective region or locale moves towards a full Next Generation 9-1-1 system, the sooner they can get towards a more permanent solution of a native text-to-9-1-1 system within the IP communications network. That is ultimately where text-to-9-1-1 needs to reside. As I said, we have two interim steps that will allow us to implement right now. Some are questioning, though, do we spend the money and effort now when we are going to make this change in a year or two years or five years. That's a policy decision that has to be made. But a state-level ESInet allows that discussion to continue. The second part of what a state-level ESInet does is it enables a redundancy and a flexibility in disaster recovery on behalf of PSAPs. Right now, any respective PSAP in this state, if they have a failure, they will either have...they have predetermined disaster recovery on behalf of their 9-1-1 service provider. But let's face it. Oftentimes my next-door neighbor or next-door county may be having the same issues from a tornado as I am having. So it just is not a very efficient and very effective disaster recovery model. Next Generation 9-1-1 allows for a much more resilient disaster recovery model. If there is an issue in Omaha, you can use the intelligent network to send those calls and all voice and data to a more appropriate call center that can take that call load or you can split it up in the...Omaha is a good example of we may send one portion of that north of Omaha and we may send a portion south. Again, those are just decisions that are made locally and at the state level, but it gives us options in terms of resiliency that we have never had with the legacy 9-1-1 system. Another point that Next Gen allows for, and this is typically the one that is most beneficial in the early stages to 9-1-1 centers, and that is what we refer to as system interoperability. That means that I can transfer a 9-1-1 call and all voice and data associated with that to any other PSAP in the state. Right now, you do not have that ability in this state. And so wireless calls, remember I've already talked about the difficulties we have and the concerns we have about wireless location, we often have to transfer those calls to a neighboring PSAP because the actual occurrence is occurring there. Right now, we can transfer some voice but very little data. With Next Generation 9-1-1, we're talking about full voice, full data anywhere

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within that network. The state of Minnesota has an IP core network in production right now, and every PSAP in that state can transfer full voice and data to any PSAP in that state. And that is a big benefit to the providers of emergency service. This last bullet goes towards some of the discussion about cost efficiencies. So not only do we have the competitive marketplace that allows those cost efficiencies, but as IT technology matures we are learning that it does offer the sharing of services in ways that have not been possible in the past. So rather than every PSAP in the state buying the same piece of equipment and utilizing it in their method, the sharing of services via IP technology allows a number of counties, a number of PSAPs to come together and buy that one system and then they in turn, because of the intelligence in the IP network, they can determine how they use that in their PSAP. It does not require a one approach that fits all. They get to determine how they use it. But there are cost savings involved when we're buying one piece of a particular system or a particular application and we can share it among several. In fact, I learned this week that there is a procurement process in place right now here involving the city of Lincoln and a number of other partners where they are seeking that type of application. And, again, it's going towards the cost efficiencies that we now can take advantage of that we simply could not be able to do in the legacy environment. You know, this question really goes to what is often a battleground in political discussions revolving consolidation. And this is a way that we can achieve the consolidation without the brick-and-mortar discussion that typically revolves around consolidation. We're going to close down a PSAP. We're going to eliminate those jobs. This allows for the use of technology to sharing the services, thereby lowering costs, but doesn't necessarily result in that brick-and-mortar discussion which is so painful as you were talking about those services and how they are provided. That's why I feel it important to point out that as this technology is maturing and as it matures, these are some of the benefits we're already seeing in terms of public safety applications and how they can benefit and how they can be shared in a cost-effective and operationally effective way. The PSC wanted me to talk about this. It's important...you know, part of what MCP brought to this was our work and support not only of a number of other states but it is the experience that is brought from the 9-1-1

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telecommunications perspective as well as the emergency responder perspective. And we do that from the local government level to the state government level. But it was also that expertise in policies and standards that are so important to this discussion of Next Gen 9-1-1. And further to that is our support to the national 9-1-1 office, which is administered by NHTSA and the Department of Transportation. Through that we keep very close involvement with the policies and standards and frankly have used that to the benefit here in Nebraska so that you are making decisions based on what others have learned, what mistakes have been made in other states and how you can learn from those. In continuing that, we've talked about those lessons that we are aware of and that have been learned from Kansas and Minnesota, Texas, Colorado, Tennessee, Pennsylvania, and others in how they have learned, how they are making steps, and how they are moving forward. A number of those--Minnesota, Tennessee--are in implementation of...they have crafted a master plan and they are executing a master plan and they have moved into production. Other states have crafted their master plan and are beginning a process of executing their master plan. And so what we bring to this simply is that understanding of what we have learned elsewhere and how we can bring that to bear here in Nebraska. So some observations that we began when we began this initiative some time ago was, first off, we were under the direction of the PSC who said it was imperative to ensure that we got the feedback of the stakeholders. So rather than just convene a number of hearings here in Lincoln, we went out and met with a number of town halls throughout the state seeking their input and seeking their counsel on what their needs are, what their concerns are, and how they would go about moving forward with Next Generation 9-1-1. This was important because this method here as we talk about a state-level ESInet, this doesn't impact...or, excuse me, it does impact, it doesn't affect the responsibility of local government in their delivery of emergency services. Nothing about Next Generation 9-1-1 changes the fact that local governments still typically deliver police, fire, and EMS services. Our responsibility is how do we deliver that in a cost-efficient and operationally-efficient way that allows them to do their job better? And that's what this is focused on. So as we noting, getting this input from the PSAPs and the public safety community throughout the state, became

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more and more aware of the mobility issues that we have, not just in this state but certainly throughout the country that we have to make some changes in how we administer 9-1-1. There is a desire to have consistent service across the state. Now that doesn't necessarily mean that you focus on the lowest common denominator, but it does mean that you have a consistency that when someone that is travelling through this state or is travelling from Omaha to the western part that there is an understanding that how we access 9-1-1, how it works, and that you don't run into the issue of the haves versus the have-nots which is always a discussion point at the state government level. There is that recognized desire to have a consistent level of service fully across the state. And the next thing we noted from talking, again, with the 9-1-1 and public safety community was that there is a strong desire for technical support, and we agree that it is needed. We have to remember that the folks that are administering and running these 9-1-1 centers and public safety agencies, they have their daytime jobs. They have to process these calls. They have to get that help to those people when they call for it. This kind of very technical support is something that is needed. PSC, recognizing that responsibility, has already begun that in a number of text-to-9-1-1 applications that are being considered throughout the state, again, because that type of technical support and that technical expertise is needed here in this state and all states. So what are some of those needs that we have identified? And I am moving to my close here. First off, we recognize that there is a need for state-level governing authority and coordination. One thing that wireless 9-1-1 taught us in the late '90s moving into the 2000s was that those states that have state-level coordination and state level authority are those states that made progress in the advent of wireless 9-1-1. Those states that did not have that type of state-level coordination are the ones that were the late adopters and even to this day are those that struggle with implementing wireless 9-1-1. So it was clear to us the evidence was significant that state-level governing authority and coordination is important for Next Generation 9-1-1. I would even say, I would posit that it's required. The complexity is significant. That responsibility that I opened up with is significant. Having that centrally located in one authority versus many different authorities is difficult at best. Again, I want to repeat that even though we recognize the

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need for a state-level governing authority governing and coordinating this Next Generation 9-1-1 network, we are not talking about a change in how public safety services are delivered. Those typically, and we believe will continue to be delivered at the local level. And again by that I'm referring to 9-1-1 communications services, law enforcement, fire, and EMS, and emergency management services. This does not change that. The next point that I want to make about is that funding is always a factor. And when those funding decisions will be made it will be made when you have empirical data and empirical information in which to make an informed decision. I can't sit here and tell you now that we know what those costs are going to be for this state. We won't until we move forward with the next step which is creating a master plan that is going to guide the state on how they move forward in the Next Generation 9-1-1 and then begin the process where we are gathering, the Public Service Commission, is gathering empirical data upon which to make those kinds of decisions. So I'm not here to say how much those costs are. But I am here, however, to say is that there is a recognized need that when those costs are available, then the state will be determining what those funding options are. The master plan is very important not only to guide the activity but also to talk about how we plan this transition. And it's important to realize, I mentioned earlier that this is not...this will not be a flash cut. This will be a transition. So there will be costs that we need to be mindful of that we are still paying for the legacy system while we are paying for the IP communication system. During that period of time of transition, there is going to be those dual costs and we have to recognize that. As the migration matures, obviously we're going to be paying more for the IP and less for the legacy cost. But, again, it's our responsibility to make sure we're looking at eyes wide open, which means that we are going to have to cover for those costs while this transition is going on. And that's a part of that transition plan which is a part of the master plan, again, ensuring that you are making an informed decision as to what those costs are. While we are talking about costs, I will say that there is a trend in other states toward uniform surcharge per device rather than a surcharge that is for wire lines that typically will go to the local government level and then a wireless surcharge that may go to a state government level, and then there are prepaid that also may go. There is a

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trend towards a uniform surcharge on any device that can reasonably access 9-1-1, be it wireless, be it wire line, be it VoIP, or be it some other type of device right now that we don't know about. As I close this, it's important to realize that the smart phone that you're carrying right now, that iPhone or that Android, has much more capability than our legacy 9-1-1 system. And as the expectations of the constituents change, we have a responsibility to ensure that we meet those expectations. They use their cell phones, their smart phones on how they communicate. We have a responsibility to ensure that we can communicate with them in times of their need. I'll be happy to answer any questions that you may have. [LR537]

SENATOR DUBAS: Thank you very much, Mr. Jones. Questions? Senator Brasch. [LR537]

SENATOR BRASCH: Thank you, Madam Chairman, and thank you, Mr. Jones, for a very thorough explanation. I could use a little briefing here. You are a principal with the public safety communication consultant. Is that my understanding? [LR537]

DAVID JONES: That is correct, entitled Mission Critical Partners. [LR537]

SENATOR BRASCH: All right. Thank you. And are we talking about software and hardware that is offered by multiple vendors or a single vendor? Is this something that is available and when you've also listed the number of states engaged, are they all working with the same vendor or multiple vendors in the delivery system? And when you also mention that it is...it improves interoperability, but that does not say it resolves. So are there still interoperability concerns? [LR537]

DAVID JONES: Okay. Let me start with the first part of the question in terms of multiple service providers. And the answer to that, again, that's part of that discussion about moving away from a regulated marketplace to a competitive marketplace. And so, yes, the answer to your question is there are multiple service providers that are both

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currently as well as certainly moving into the future that are now able to provide service in a Next Generation 9-1-1 environment. And let me give you an example of one that I was involved with a number of years ago. There was a significant dissatisfaction with the 9-1-1 system service, the Local Exchange Carrier. This particular region wanted to assess their options in what that means other than that Local Exchange Carrier because they were dissatisfied with the cost and with the service. An IP network was designed and was competitively procured, and a Competitive Local Exchange Carrier, a CLEC, was successful in winning that particular competitive procurement. It is interesting, though, when we started that competitive procurement when we were trying to identify alternative service providers, we were hit with the admonition that we don't do 9-1-1. You need to go talk to the Local Exchange Carrier. And when we pointed out that network design, it was interesting, that particular CEO said to me, he said we do that exact same thing for banks, for financial institutions in the network services that we provide to financial institutions. That was our point. Yes, you do provide that service, that is if you meet the standards that we are designing this network to that is a public safety grade network, and, yes, that is a service you can provide. This particular and a number of other CLECs agreed. They contributed into the competitive procurement, and they came in at half the cost of that Local Exchange Carrier. And they have since...that particular system has been in production now for two years. So the answer to your question is, yes, it does allow for different service providers other than through the legacy 9-1-1 system. Again, though, I want to be clear, with that use of the competitive marketplace comes responsibility. And that means that state and local government authorities has to take a greater role in administering those contracts and managing those contracts and ensuring that they hold accountable these service providers, some of whom may not understand a public safety grade network. And there is a responsibility that goes with that. I hope I answered the first part of your question. The second part of your question deals with interoperability. And that is such an overused word I really don't even like using it. But I'm referring here to what we call system interoperability, which means that in the Next Generation 9-1-1 environment we will have the ability to share voice and data through a number of applications, some that are in play today,



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some we haven't envisioned yet. But let me use another state as an example. I mentioned earlier the state of Minnesota. As they brought their IP core network into production, they solved that system interoperability issue, and they were able to transfer voice and data to any 9-1-1 location in that state. And that was a legitimate problem that this transition to an IP core network, that problem was solved. And that was important to them. That was one of those problems they identified earlier, that's what we want to solve. So the answer to your question is, yes. As the IP systems are being deployed and as they are moving into production, they are demonstrating solving that problem of system interoperability. That doesn't necessarily mean though that the entire issue of interoperability has been solved. It's much more complex and, excuse me, it goes into how do we interconnect disparate network because, remember, that state-level ESInet, that is a managed, private IP network. How do we interconnect that network to another network or to another public safety application? Standards are being developed and they are being implemented. But I cannot sit here and tell you that that interoperability issue is solved. IP, those who support moving forward that we have already seen its successes, but I can't say that it is resolved entirely. [LR537]

SENATOR BRASCH: Okay. Very good. Another question as well is, in District 16 we have several rural communities and they are struggling with radio communication for emergency services. And we're still working on trying to find some solution between the county seat and some satellite offices in other towns. One thing I was made...I had town hall meetings in all three counties yesterday and I had a new constituent come to me that had just moved from Omaha that now lives in Tekamah, and they can't get Internet. They've tried calling everyone they can. And so these constituents as we're working more towards being...using the information highway and moving way from...and even we have landline issues still ten miles away from where I live. So are we doing anything on 9-1-1 and all of the other branches...and you're saying they're not public lines, but if these private, exclusive lines, how do they reach someone that might be on a dairy farm miles away and they need help? [LR537]

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DAVID JONES: Right. And what you're talking about is the importance of broadband because Next Generation 9-1-1 is reliant upon broadband and wireless broadband. I don't want to use the term wire line. But it's based upon broadband and wireless broadband. And so you raise a valid concern is how do we ensure that that kind of service is made available? So the first point of that from a 9-1-1 perspective, right, is that we have to ensure that we have broadband interconnectivity to every PSAP in the state. We can't say that we have that right now. But that is a part eventually of how we interconnect these PSAPs on this private, managed IP network. Where I was wondering if your question was headed maybe in that discussion about the sharing of services. And most applications I think it's generally understood and believed that information applications are all migrating towards IP, towards IP (inaudible). As that matures and as that continues, the sharing of those applications allow for cost efficiencies to occur such as what you're describing. In particular, radio over IP is...it's not a mature...I can't say that it's a mature technology right now, but I believe that everyone would understand that radio over IP is how radio systems are moving into the future and is certainly the underpinning of a public safety broadband network. That's where you may see some cost efficiencies that can be gleaned by the sharing of assets. So an IP core network then is a part of Next Generation 9-1-1, perhaps one day can be a part of the IP core network that supports public safety broadband for the police, fire, and EMS in your community. It's providing options that we did not have in years past. When you talk about the wire line issue, the infrastructure in the public switch telephone network is moving towards IP. Clear and simple. The market demands and the regulatory demands are moving that. The sooner we get into the planning process, we being the state of Nebraska, the sooner we move into that, the sooner we can take advantage of those benefits that are offered by this. It's going to happen. We can either do it on terms that are good for this state and these constituents or we do it under terms that are less so. But it is going to happen. Did I answer you question? [LR537]

SENATOR BRASCH: You did very well. Thank you. I have no other questions. [LR537]

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DAVID JONES: Thank you. [LR537]

SENATOR BRASCH: Thank you again. [LR537]

SENATOR DUBAS: If I could ask you to put up, it was one of the first slides showing the public safety...the PSAP statewide. It was in the very beginning. I think it just is good for the group to see the map, yes. [LR537]

JOSELYN LUEDTKE: The map? [LR537]

SENATOR DUBAS: Yes. [LR537]

DAVID JONES: Oh, that was on the different...yeah. [LR537]

SENATOR DUBAS: On the very first. I think it just helps us see some of the geographic challenges as well as some of the other things going on in the state. Thank you. [LR537]

DAVID JONES: That's the one you're referring to, right? [LR537]

SENATOR DUBAS: Yes, yes. Thank you. Do we have any other questions? Senator Watermeier. [LR537]

SENATOR WATERMEIER: Thank you, Chairman. Mr. Jones, you had just briefly stated how important it will be for the state's GIS database to be there. And I assume you've done no grading and no evaluation yet of that. You're stating that it's going to be an important. Or did you want to expand on that a little bit? [LR537]

DAVID JONES: That is correct. And you are correct. We have not...I'm not aware of an assessment on GIS data so I'm not going to comment on that. What I do know though is

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the requirement of very accurate GIS data and its role in Next Generation 9-1-1. Again, we are moving away from a reliance on static records, predetermined records, and moving towards dynamic data that GIS will provide. So it has to have that hyper-accurate level, and it is significant in terms of effort and cost that we move GIS to that level that will support these Next Generation 9-1-1 and public safety applications. Again, a lot of people view GIS in the past as a nice-to-have so we can plot a wireless 9-1-1 call on a map and see where they are. We're moving away from the nice-to-have that it's a core requirement of the Next Generation 9-1-1 system. That is how we will route the calls to ensure that it gets to the right PSAP, that they in turn can get the closest police officer or the most appropriate police officer or sheriff's deputy, firefighter, and paramedic. It is core to the Next Generation 9-1-1 system. [LR537]

SENATOR WATERMEIER: Okay. [LR537]

SENATOR DUBAS: I would have a couple of questions for you. I'm going to kind of follow up on one of the first questions Senator Brasch asked you about moving from that regulated marketplace to a competitive. And what came up in my mind was are we compromising security. I think you kind of alluded to the fact that the government is still going to have...government agencies will still have to play a very involved role in how that is handled. So I guess if you just kind of want to back up and touch base on that again I would appreciate it. [LR537]

DAVID JONES: Network security is of significant importance. There is no question about that. That's the reason why I have several times highlighted the fact that this is a private, managed, secure public safety grade network. Yes, network security is of paramount importance. There are standards that are in play today and that are continually being developed that bring into account network security. But your point is very well taken and, again, it goes to my point about we have a greater responsibility now as we are managing different service providers in ensuring that they follow these nationally recognized standards in terms of network security and a host of other items,

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but that are recognized and that are at play in terms of providing a public safety grade network. Networks I am not going to minimize the importance of that, but, again, it does go to highlight that, yes, there are standards, there are best practices. It is now changing. As we take advantage of that competitive marketplace, we have a greater responsibility in ensuring that these, all of these service providers whereas before, remember, I only called the telephone company and they did everything. They provided my actual telephone equipment. They provided the network. Next Generation 9-1-1 means that I may be able to hire one service provider to provide network. I may hire one provider to provide the 9-1-1 equipment. I may hire a different applications provider to provide yet a different application. Each one of those can impact the security and operation of that Next Generation 9-1-1 network. And we have a responsibility to manage those. That's what I mean when I say that we have a greater responsibility now than we have under the legacy environment. We need to make sure we understand that. [LR537]

SENATOR DUBAS: So it'll be up to our government agencies to make sure they have a heightened sense of accountability and transparency in the contracts that they enter into with one or multiple... [LR537]

DAVID JONES: That is correct, and the accountability factor is what is key. You want to ensure that you have contracts in place that provides protections so that you can use those to hold those service providers and manufacturers accountable for the services that they provide and products that they provide. And what happens if and when there is a failure, you want to ensure that you have that means so you can hold them accountable. Absolutely. [LR537]

SENATOR DUBAS: Very good. Thank you. When you talked about the time line for the full transition and you said, you know, we're looking at ten years probably, we know in every aspect technology is moving far faster than we can even begin to keep up with. So in this ten-year span, how much is going to change in this whole process that allows

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us to get to where we need to be? [LR537]

DAVID JONES: Yeah, that's a great question. And that's the reason why we focus, you know, I used that term in the beginning of emerging technologies, perhaps even those technologies we don't know right now. It is...you know, we were on a circuit switch network for many decades. And while we're moving away from that, there is a belief and understanding that IP telephony is going to be that operating platform for...that can be envisioned right now. So I can't sit here and tell you though that there won't be a technology that comes out in ten years that replaces telecommunications as we know it entirely. IP telephony is believed to be that future point on where that telecommunications infrastructure is moving, has already begun. It actually began in the late nineties, and has continued to moved. And that's the investment that you are seeing being made on exchange carriers, LECs, ILECs, CLECs. That's where the investment is. IP telephony, though, does provide the protection in terms of the applications, that applications as they are being developed at a very fast rate, and you are very correct in that, they still operate on an IP operating platform. And so that's the benefit of what we see of moving into IP telephony. But can anyone sit here and tell you that ten years from now it's going to be something different? I cannot make that assertion. [LR537]

SENATOR DUBAS: So as we work and move towards the development of this master plan, will that be fluid and flexible enough that as, you know, if something new comes along while we're in this process we'll be able to grasp it? [LR537]

DAVID JONES: Absolutely. Any master plan has to be dynamic in nature, you know, otherwise it gets put on a shelf and it never gets executed. This is talking about creating a master plan that is relevant to the operational and political realities of the day and we all know that funding issues, funding is always a factor and certain funding may not be available in year three of a master plan, but it may be available in year five. A master plan has to be fluid and dynamic for it to be...because that's what you want your master plan to be, right, is you want it to be actionable. You want to have the ability to execute

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and make progress and determine the steps that you were taking are going towards fulfilling the objective of the plan itself. So you're very correct. [LR537]

SENATOR DUBAS: You also had talked about the inability of PSAPs to transfer between themselves. What do they do now if they need to contact another PSAP or send a message or transfer anything? What's the process? [LR537]

DAVID JONES: Yeah, that is another great question and it actually is a great segue into a point I want to make. But I will answer your call now...answer your question. They either work it out...they have a predetermined transfer point within their...another acronym, their CPE, their customer-premise equipment. That's their 9-1-1 equipment. They either have a predetermined transfer point that may transfer voice, may transfer data. But if that doesn't work, and that usually is more prevalent around their surrounding counties. That's when they're more likely to transfer data. If that doesn't happen, they use the same telephone call that you do and they'll call that PSAP and say, hey, we just received a call of an accident at such-and-such and you need to respond accordingly. They don't have access to that data. They don't have access to the voice of that person calling in, which leads me to my point. And thank you for asking it. A big issue that we hear from the public safety community, and again I should say this, I spent...personally I spent 25 years in local government providing emergency services. I actually began my career as a 9-1-1 dispatcher. So I feel like I can say this from a degree of understanding on what it takes to deliver these services. But an issue that we hear from dispatchers and telecommunicators and PSAP managers is one of information overload. How are we going to manage all these types of information that text-to-9-1-1 and still photos and videos and telematics and all of these...even things that we haven't defined yet, how are we going to manage that? And you know what? My response has always been I really don't worry about that because the 9-1-1 community has for decades have demonstrated their resilience in how they provide service. Was wireless 9-1-1 hard? Yes, it was. But you know what? We figured out ways to make it work. We figured out ways to provide the service that our constituents expect us to do.

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So as we are talking about this level of change, and operational implications are significant, I'm not going to negate that. But I've seen telecommunicators come up with very innovative ways to solve the problems of the people calling them for help. Because of what I've seen in that resiliency and that adaptability, I really don't...I really am not concerned about that because dispatchers, police officers, firefighters, paramedics, they have proven time and time again they will do what it takes to get the help to that person, to that patient in times of need. Our job is to help them do it better. [LR537]

SENATOR DUBAS: Very good. I just have a couple of more questions for you. Okay. You've made this presentation today. You will move...the next step would be moving into a master plan. [LR537]

DAVID JONES: Yes. [LR537]

SENATOR DUBAS: Then where do we go? What's next after that? Implementing the plan, I would assume. Okay. [LR537]

DAVID JONES: Executing the plan which typically will then move, once you identify your plan and identify the business case behind it, which means that there will be some level of network design because you're going to be gathering information from potential service providers on what those potential costs are. You'll need that to develop the master plan which you'll then use to develop the transition plan. But eventually you'll move through the planning process, and when you start to execute that plan is when you will start the actual procurement process on network assets, equipment assets. But, yes, the important thing is that you have a master plan that is actionable and that you can demonstrate progress as this is what the investment of money has been and this is the progress that is being made. [LR537]

SENATOR DUBAS: What's the time line for a completion of a master plan? Is that in that... [LR537]



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DAVID JONES: That's usually in that 6- to 12-month time frame. [LR537]

SENATOR DUBAS: Okay. Very good. Last question I would have for you is, I'm aware of a system or a program called FirstNet, and I think we may have some people in the audience from OCIO, is that correct, and I know that's kind of their bailiwick there. What's your familiarity with FirstNet and how do you see that system in what we're talking about with Next Gen 9-1-1 either coming together or not? [LR537]

DAVID JONES: I do have a high level of understanding of FirstNet and the national broadband public safety network. That's the point I was making earlier on the question from the senator here about I do believe and I know at the federal level that there is a desire to ensure that these two initiatives are coordinated. Does it make sense that assets that are being used by both of them be completely separate? You know, I think public policy would dictate otherwise, that if there are avenues in which assets can be shared and accommodate that purpose, I think that's a reasonable discussion to have. What I can't say is where FirstNet will end up. It has some good ideas that are being vetted. In fact, I was speaking earlier. I know that there is upcoming dialogue in this state involving FirstNet, and Next Generation 9-1-1 is certainly a part of that. And the coordination between FirstNet and Next Gen 9-1-1 needs to happen. Can I say that they are going to become one? No, I cannot say that. Eventually that's a different discussion. But Next Gen 9-1-1, you have the means in which to move forward now; FirstNet, you can't say that. [LR537]

SENATOR DUBAS: Will there be any alluding to the FirstNet in the master plan or even in a broader sense will you be speaking to what they're trying to do? [LR537]

DAVID JONES: I believe that that is reasonable. I believe also that you will want to ensure here from the beginning that you have an understanding of the FirstNet role into Next Generation 9-1-1 ensure that that coordination is beginning now and continues. So

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as you pointed out, you know, the role of OCIO, that's a legitimate point into the coordination of Next Generation 9-1-1. That has to happen from the beginning and, yes, the master plan will to the extent reasonable and available will address that issue I believe. [LR537]

SENATOR DUBAS: Thank you. Is it Mr. Becker and Mr. Wilhelm that are here today from OCIO? We thank you for attending today and listening to the briefing. We really appreciate it. And I hope there is that cooperative effort between the two systems and the two programs because it sounds to me like they will kind of fit together in some respects. So hopefully as things move forward, that will happen. So, again, thank you for taking time out of your day to come and attend the briefing. Are there other questions? Well, seeing none, I thank you again, Mr. Jones, for your work on this and your presentation to the committee. And I'll be able to sit back on the other side of the table and watch as this moves forward and where we go from here. So thank you again very much. [LR537]

DAVID JONES: Thank you. [LR537]

SENATOR DUBAS: And that will conclude our briefing for today. Thank you, all, for attending and have safe travels home and a good weekend. [LR537]