Nebraska Information Technology Commission
Community Council
Wednesday, October 4, 2017
1:30 P.M. CT – 4:00 P.M. CT

Varner Hall-Video Conference Room, 3835 Holdrege, Lincoln
Desk Top Video Sites Public Participation Sites Available Upon Request:

Tentative Agenda

Meeting Documents

1:30	Roll Call Notice of Posting of Agenda Notice of Nebraska Open Meetings Act Posting Approval of May 12, 2017 minutes* Public Comment
1:40	**City of Lincoln Broadband Infrastructure Efforts**—David Young, City of Lincoln
2:10	Public-Private Partnerships—Tim Lindahl, Wheatbelt Public Power District
2:25	**Questions for Broadband Task Force** 1. Should there be a Nebraska-specific definition of broadband? Should it be based on minimum speeds or some other measurement? 2. Should Nebraska formally adopt a policy goal of ensuring ubiquitous broadband availability, regardless of cost? 3. Should there be technology preferences for the means by which broadband availability is deployed? 4. Should the State of Nebraska maintain restrictions on the provision of broadband services by political subdivisions of the state? In the alternative, should exceptions be allowed that would enable the formation and operation of public-private partnerships that enable broadband deployment? 5. Are existing cost recovery mechanisms adequate to ensure that all Nebraskans will have access to broadband services that are reasonably comparable in cost and service quality?
3:00	**Membership*** • Mary Ridder, Nebraska Public Service Commission
3:05	**Action Items***
3:35	**Updates** • Nebraska Broadband Today conference—Oct. 26 • IMLS and NSF makerspace grants • Other updates from members
4:00	**Adjourn**

Meeting announcement posted on the NITC Website and Nebraska Public Meeting Website on Sept. 19, 2017.
Agenda posted on the NITC Website on Sept. 20, 2017.

NEBRASKA INFORMATION TECHNOLOGY
Commission Community Council
Friday, May 12, 2017 9:30 a.m.-12:00 noon CT
Nebraska Public Service Commission
1200 N Street, Suite 300, Hearing Room Lincoln, Nebraska
Desk Top Video Sites Upon Request
University of Nebraska Extension-Sidney 902 Jackson Street, Sidney, Nebraska
MINUTES

ROLL CALL NOTICE OF POSTING OF AGENDA NOTICE OF NEBRASKA OPEN MEETINGS ACT POSTING

Anne Byers called the meeting to order at 9:30 a.m. There were eleven members present. A quorum was present to conduct official business. A copy of the Nebraska Open Meetings Act was available on the wall. The meeting announcement was posted on the NITC Website and Nebraska Public Meeting Website on May 5, 2017. The agenda was posted on the NITC Website on May 8, 2017.

Members Present: Pam Adams, Jay Anderson, Rod Armstrong, Randy Bretz, Jessica Chamberlain, Steve Fosselman, Connie Hancock, Steve Henderson, Megan McGown, Cullen Robbins, and Holly Woldt

Members Absent: Chris Anderson, Brett Baker, Shonna Dorsey, Phil Green, Jacob Knutson, David Lofdahl, and Joan Modrell

Alternates Present: Charlotte Narjes

APPROVAL OF SEPTEMBER 14, 2015 MINUTES*, **MARCH 31, 2016 MINUTES*** **AND SEPTEMBER 19, 2016 MINUTES***

Mr. Anderson moved to approve the September 14, 2015, the March 31, 2016, and the September 19, 2016 minutes as presented. Mr. Bretz seconded. Roll call vote: Adams-Yes, Anderson-Yes, Armstrong-Yes, Bretz-Yes, Chamberlain-Yes, Fosselman-Yes, Hancock-Yes, Henderson-Yes, McGown-Yes, Robbins-Yes, and Woldt-Yes. Results: Yes-10, No-0, Abstained-1. Motion carried.

PUBLIC COMMENT

There was no public comment.

TV WHITE SPACE UPDATE
Tom Rolfes, NITC, Education IT Manager

TV White Space uses portions of licensed UHF radio spectrum that licensees do not use. UHF radio frequencies are non-line-of sight (NLOS) and are able to penetrate trees and buildings. It can cover a 10 kilometer (6 mile) radius. The Office of the CIO met with interested parties, including the University of Nebraska, tribal entities, libraries and schools in March about interest in a possible funding opportunity for pilot projects in March.

Beatrice Public Library in cooperation with ESU 5 received a $15,000 grant from the Gigabit Libraries Network for a project to use TV White Space as an extension of the library's network. The base station has to have an internet source but it can be located anywhere. Remote homework hotspots would include the Scott Street Ball Fields, Hannibal Park, and the Community Players Theaters.

BROADBAND AND LIBRARIES
Tom Rolfes and Holly Woldt

In Nebraska, there are approximately 350,000 students who do not have internet in their homes. There is fiber in 100% of the school districts, however, over 75% of libraries have broadband below the FCC's definition of broadband of 25 Mbps down and 3 Mbps up. Libraries are foregoing federal dollars in support primarily due to the perceived complexity of eRate filing. Most communities are not aware that by forming a community consortium made up of the school district, the ESU and the library, the consortium would become eRate eligible. It could mean increased business for local providers and shared Internet would bring costs down. Mr. Rolfes will be working on public awareness and developing partnerships. He asked members to share the information.

The IMLS/Internet2 Toward Gigabit Libraries project targets small, rural and tribal libraries to improve library staff understanding of broadband and to help them develop a plan to improve the library's broadband access. Nebraska was the first state to pilot the IMLS/Internet II Toward Gigabit Libraries Toolkit with rural libraries. Public libraries in Wymore, Walthill, Atkinson, Valley and Gering participated in the pilot. Only one of these libraries had an IT staff person. The pilot process consist of the following:

- Pilot Site Selection
- Intake Survey
- Pilot Visit Toolkit
- Broadband Improvement Plan
- Post Pilot Survey

The toolkit includes the following sections:

- Technology Inventory
- Broadband Services and Activities
- Broadband Technology and Operations Support
- Broadband Funding
- Additional Resources and Best Practices
- Glossary

Oklahoma, Iowa, Kansas, Alaska and one other state are also participating in the project. The toolkit should be available by the end of summer.

PUBLIC-PRIVATE PARTNERSHIPS/COOPS AND BROADBAND
Connie Hancock University of Nebraska Extension; Timothy Lindahl, Wheat Belt Public Power; Eric Carstenson, Nebraska Telecommunications Association

Nationally, there is a drive to implement broadband. It is estimated that 5-7 customers per mile are needed in order for broadband to be cost effective. Currently, the business case is just not there in many areas. Public private partnerships need to occur to provide cost-sharing and cost-savings to the customer. Public power can possibly be a partner.

Mr. Carstenson indicated that the Nebraska Telecommunications Association would like to see broadband deployment in rural Nebraska. The average cost is $20,000 per mile for fiber on the ground. NTA researched what it would cost to run fiber on a pole. Due to added needs of the fiber on a pole, it was really not cost-effective. There are federal funding sources such as the Connect America Fund (CAF) in addition to the Nebraska Universal Service Fund which are supporting the deployment of broadband.

Mr. Anderson stated that providers and consumers can also work to be more efficient in their use of broadband. He has a 3 Mbps down connection and can run multiple devices. NebraskaLink approached Google, Amazon, and Netflix and asked if they would put servers on NebraskaLink's network to better manage network traffic.

MEMBERSHIP

Commissioner Jerry Vap has left the Public Service Commission. Ms. Byers e-mailed Jeff Pursley and Commissioner Schram to ask the PSC to name a new representative. Ms. Byers has not received a response.

NEBRASKA AND THE DIGITAL DIVIDE INDEX 2015

Roberto Gallardo's report on the Digital Divide Index provided some interesting figures on broadband deployment and adoption in Nebraska. Nebraska fares fairly well on socioeconomic indicators, ranking 21 out of the 50 states and District of Columbia and 35 on the composite index for both socioeconomic and infrastructure measures. However, the report ranks Nebraska 48th on infrastructure measures, ahead of only Mississippi, Montana, and Alaska. Ms. Byers discussed some of the findings:

- Broadband availability in Nebraska is improving. Broadband of at least 25 Mbps down and 3 Mbps up was available to 84.6% of Nebraskans in 2015, up from 79.3% in 2014. Nebraska ranked 34th out of the 50 states and the District of Columbia on this measure—certainly a far better ranking than the Digital Divide Infrastructure ranking of 48.
- Average advertised download and upload speeds in Nebraska also lag behind the United States and most neighboring states. Nebraska had an average advertised fixed download speed of 20.4 Mbps compared to the U.S average of 32.6 Mbps and an average advertised fixed upload speed of 8.5 Mbps compared to the U.S. average of 12.8 Mbps.
- There are significant differences in average upload and download speeds between the state's more populous and less populous counties. Nebraska counties with populations greater than 20,000 had an average advertised fixed download speed of 36.5 Mbps and an average advertised fixed upload speed of 16.2 Mbps. In comparison, Nebraska counties with populations less than 20,000 had an average advertised fixed download speed of 16.8 Mbps and an average advertised fixed upload speed of 6.8 Mbps.
- Although the data seems to indicate that there is an urban-rural divide in Nebraska, this paints an overly simplistic picture of Nebraska.
- Additionally, affordability and adoption of broadband at higher speed tiers—especially in some of the state's more rural counties—may be exacerbating the Digital Divide in Nebraska. Nebraska lags the U.S. and our neighboring states in the subscription rate to higher speed tiers of broadband (10 Mbps down and 3 Mbps up or greater). In over half of the counties in Nebraska, fewer than 20% of households subscribe to broadband at speeds of 10 Mbps down and 1 Mbps up or greater.
- There are limitations to any method of ranking states. The Digital Divide Infrastructure Score was derived by first calculating county scores for broadband availability, average download speed, average upload speed, and subscription rates. The state score for each indicator was calculated by averaging the county scores. Using this method McPherson County which has no incorporated towns is given the same weight as Douglas County. This method provides a good picture of a measure across the geography of the state—but not the population of a state. Because Nebraska's population is highly concentrated in a few counties in eastern and central Nebraska

and has more counties with fewer than 1,000 people than any other state, this method probably disadvantaged Nebraska to a greater extent than other states.

Federal programs such the Connect America Fund should support the continued buildout of broadband in underserved areas. The contribution base of both the federal and state universal service funds has been shrinking and needs to be modernized.

NEBRASKA BROADBAND TODAY!
Eric Carstenson

The 2017 Nebraska Broadband Conference will be held on October 26, 2017 at the Cornhusker Marriott in Lincoln. This is a collaborative project with the Nebraska Telecommunications Association and the Nebraska Broadband Initiative. The goal is to bring together economic developers, community leaders, telecommunications providers and others to better understand how communities and telecommunications providers can work together. As plans develop, more conference details and information will be available at www.ntaonline.net.

FIRSTNET UPDATE
Bob Wilhelm

Congress enacted the public law 112-96 on February 22, 2012. The vision of the law is to provide emergency first responders with the first high-speed, wireless nationwide public safety broadband network (NPSBN) in full operation by 2022. AT&T was awarded the national contract. It was challenged and taken to court. The court awarded the contract. All law enforcement, first responders, and emergency entities will be able to communicate via this network. At the end of summer, the federal government is scheduled to release the guidelines for states to develop their state plan. States have the option to buy into the plan or develop their own plan to build the system according to the FCC requirements. The public law states AT&T must provide "significant rural coverage." If AT&T does not provide coverage, there are financial penalties. Currently, the state of is paying $40 per device for our Public Safety Radio System. When Nebraska's plan has been finalized, it will go to the Governor to decide to opt in or opt out.

MAKERSPACE UPDATES

Sidney Create! Ms. Hancock reported that the kickoff was in March. Summer activities have been planned with 4H. These will end up being exhibits for county fair. Fall activities are being planned. The project will be applying for a mobile maker space grant.

Blair Public Library and Technology Center. Ms. Byers reported that the Blair Public Library & Technology Center and the Creative Commons (makerspace) opened to the public on April 1, 2017. Policies and procedures are being developed and ventilation systems are being installed. Library staff also plan to work with Metropolitan Community College to begin training classes for the new Cube Pro 3-element 3D printer and Laser Systems 50 watt laser cutter / engraver.

Nebraska Library Commission Grant, Library Innovation Studios: Transforming Rural Communities.
JoAnn McManus, Grants Coordinator, Library Commission

Partners for the grant are the Library Commission, the University of Nebraska-Lincoln Innovation Studio, Nebraska Extension and the Regional Library Systems. The Library Commission and the University of Nebraska are providing a 1 to 1 match. The project kickoff is scheduled for July 1st and will be complete in June 30, 2020. This multi-faceted effort will:

1. Establish local Community Action Team in 30 rural communities;

2. Purchase equipment and related materials for four rotating Innovation Studies;
3. Develop instructional materials and equipment certification processes
4. Employ sustainability strategies for permanent studios
5. Provide training on the use of the equipment, including Train the Trainer strategies
6. Provide marketing efforts and programming/events, including Open Houses and Maker Showcases; and
7. Host annual Inventors Showcases in Lincoln.

Three goals will guide the project:

1. Rural community residents will be empowered with the tools and guidance to explore, collaborate, create, learn and invent.
2. Libraries will transform their rural communities through participatory learning spaces, while establishing themselves as strong community catalysts for community change.
3. Libraries (and communities) nationwide will have access to a replicable model.

The 30 libraries have not been selected yet. There will be an application process. Half of the participants will be picked for the first round. Second round will occur a few months later. Communities have to be under 25,000. That leaves out only 6 communities in Nebraska. The Library Commission and Nebraska Innovation Studio have hired additional staff to assist with this grant.

NEWSLETTER IDEAS

Ms. Byers stated that she is always looking for newsletter ideas. She plans are to publish the next issue sometime during the summer. Mr. Armstrong suggested the upcoming October conference as well as an update on the FirstNet plan. Members were asked to send Ms. Byers their ideas.

ADJOURNMENT

With no further business, the Mr. Armstrong adjourned the meeting at 11:46 a.m.

Meeting minutes were taken by Lori Lopez Urdiales and reviewed by Anne Byers, Office of the CIO/NITC.

Comments on Broadband Task Force Questions

From Dan Shundoff:
These are great questions to consider and address. As I've shared in the past, I would encourage the conversation and focus to start shifting from access and availability to reliability, performance and price – specifically on the business side of ISP services. The discrepancy on these three issues across the state, depending on location and provider, are dramatic. If there's anything I can do to help on this please let me know.

From Dorest Harvey:
I agree with Dan Shundoff when he responded to your email - that we should provide more focus on reliability, performance and price in addition to access and availability.

In response to your task force questions, I would offer the following responses:

Q1. I would inquire how other states and industry organizations define "broadband " as this industry and terminology have come a long way from the days of "high speed" 200 Baud modems!

Q2. I believe one of the goals of the Task Force should be to provide "normalized broadband service" across Nebraska in terms of access, availability, reliability, performance and price - with a long term goal of reasonable parity.

Q3. I do not believe there should be any technology preference for the means, as this is a rapidly changing landscape - so long as the goals of broadband deployment are achieved.

Q4. I'm not sure how to respond specifically to your question on political subdivisions - but I firmly believe we (the task force and others) should consider, enable and champion public-private partnerships to enable broadband deployment across Nebraska!

Q5. The task force should look into the current cost recovery methods and algorithms and determine if they align with the task force goals. If we find that they are not in alignment - we need to consider ways to better align our available resources and our task force goals.

From Walter Weir:

My initial thought: Looking at the problem from the providers side of the table. It wasn't but 20 years or so ago that network traffic was mostly just voice or voice-grade types of traffic. Today however, network providers must accommodate, in addition to basic voice service, an ever-increasing amount of different kinds of high-bandwidth or broadband traffic — be it data, image, or video. Customers today are demanding ever faster performance, better overall quality (HD), reliability (in the 9 9's), demands for lower costs, and an ever-growing appetite or a variety of advanced services.

The reality is that the telco and communication providers today are also seeing ever increasing competition, in the form of wireless and internet services provided by satellite services companies like DISH, DIRECTV and Xfinity. This reality requires, on the telco's part, an increased concern on their long-term ability to continue to pay for their current investments in copper and fiber wiring as well as being able to now provide for the ever-evolving types of services their customers want. So, in order to stay afloat the providers, need to somehow consistently acquire newer networking technologies to enable the deployment of these advanced services, while also increasing network efficiencies to maintain control of their operating expenses.

It has been my experience, with Network Nebraska (NN), that what telco's and other providers want, more than anything else is a steady and stable revenue stream to ensure that their that sunk investment costs they made 15-20 years ago in fiber and other transmission costs will still be covered. From my perspective, a major key to NN's ultimate success was that guarantee of a steady revenue stream provided by the State and University commitment to do it.

On to the questions -

1. Should there be a Nebraska-specific definition of broadband? Should it be based on minimum speeds or some other measurement?
    a. There are about as many definitions of Broadband as there are types of cars. We have: Digital Subscriber Lines (DSL), Cable Modem, Fiber, Wireless, Satellite, Broadband over Powerlines to name a few.
    b. The FCC, I believe currently defines broadband as having minimum download speeds of from 4Mbps to 25Mbps, and a minimum upload speed from 1Mbps to 3Mbps. As Dorest points out maybe the definition in Nebraska should also address concerns related to access, reliability, performance and price.

2. Should Nebraska formally adopt a policy goal of ensuring ubiquitous broadband availability, regardless of cost?
    a. My first reaction is yes, we should adopt a policy of ubiquitous broadband availability. However, I do have a problem with the "regardless of cost issue".
    b. I understand that the Nebraska Public Service Commission is already looking into possible revisions of the Nebraska Universal Service Fund to make it more broadband focused.
    c. We need to put together a lobby to work with the Transportation Committee of the Legislature on this issue. Maybe a couple of Mayors can come together for example.
    d. What about "The Nebraska Internet Enhancement Fund", where does that money stand?

3. Should there be technology preferences for the means by which broadband availability is deployed?
    a. I would not limit this since the technology is changing so fast.

4. Should the State of Nebraska maintain restrictions on the provision of broadband services by political subdivisions of the state? In the alternative, should exceptions be allowed that would enable the formation and operation of public-private partnerships that enable broadband deployment?
    a. I believe we already have too much regulation of this industry. I would contend that a number of laws and regulations we have on the books today are essentially outdated and need to be revisited or rescinded. The telecommunications systems we have today share no real resemblance to the telecommunications systems of the past that had as their principal focus the telephone.
    b. I agree with Dorest that we want more public-private partnerships, not less.

5. Are existing cost recovery mechanisms adequate to ensure that all Nebraskans will have access to broadband services that are reasonably comparable in cost and service quality?
    a. If a provider were to provide service to say Wayne Nebraska, do we have any idea what the regulatory costs (taxes if you will) are on top of what the basic vendor delivered cost is?
    b. Do we have any idea what it might cost to provide the kind of service we are looking for or want? Do we know that vendors might have to pay for equipment (routers, repeaters, actual fiber installation be it by pole or underground), maintenance and administrative costs to provide the service?

       I think If we can get a handle on what their costs might be then we can then talk about the best way to offset them. Be it government subsidy, grants, changes to the Universal service fund, or some other mechanism.

    c. To me this is issue is the same as when we talked about the building of roads and highways in the 1930's to 60's. We can't fall behind, for example today when Mercedes Benz looks into the future they believe that their competitors will no longer be just the other car companies, they believe companies like Google, Apple, Amazon, 'et al' will be their competition. In addition, huge advances in Artificial Intelligence (AI) coupled with advances in computer design (Quantum Computing) and maturing development software will surely advance the disruption of most traditional industries in the next 5-10 years and beyond. What might this mean for Nebraska?

Finally - The Tractica Report https://www.tractica.com/research/agricultural-robots/ already talks about driverless tractors, unmanned aerial vehicles, material management, field crops, soil management, dairy management, and animal management for precision agriculture. How will these robotic advances happen here in Nebraska without adequate telecommunication systems?

Questions to disseminate, discuss and bring back to the task force meeting (Gary Warren Response)

1. Should there be a Nebraska-specific definition of broadband? Should it be based on minimum speeds or some other measurement?

   Response: Broadband is currently and generally perceived as being high speed internet access or other data transport at rates of speed which would accommodate large data files and video. There is no specific reason that Nebraska needs to have a specific definition of the word "Broadband" in and of itself. There may be value in defining specific minimum data rate goals and quality of service standards for deployment of broadband facilities in a similar manner to what the Federal Communications Commission has done as part of their recent orders. Any definitions or specifications would best be accomplished by regulation or orders at the Nebraska Public Service Commission level rather than statute primarily because those specific minimum speeds are going to continue to change over time and the standards may even vary by geography. For example funding for deployment of broadband might be based on meeting a minimum speed of 10 Mb in certain rural settings today, but 100Mb or even 1 Gb a year or two or three years later. At the same time such a minimum standard might not rise to the level of needing funding in more densely populated urban areas however funding would be required for more rural areas. The need for such a definition or such goals is most likely tied primarily to whether or not it is going to be used as a basis for determining funding levels for a funding mechanism such as the Nebraska Universal Service Fund. Last, but not least, it is important to define those minimum speed goals as minimum speeds and not maximums. Some broadband carriers (wireless and wireline) use "shared pipe" distribution systems to end users and advertise speeds that are "up to" 10 Mb or 30Mb or 50Mb service, however during periods of high volume usage, the speeds are much less than that. So availability of whatever speed is advertised needs to be addressed as part of any such data speed and quality standards.

2. Should Nebraska formally adopt a policy goal of ensuring ubiquitous broadband availability, regardless of cost?

   Response: Stating a goal such as every home or business has to have access to 10 Mb, 100 Mb or 1 Gb on a statewide basis without regard to density of population and/or demand is probably not politically or economically realistic even though we would all like to have it. It is somewhat akin to the funding issues that would develop if we said we were going to have paved roads to all residents, farms and businesses or a goal of four lane highways to every community or certain levels of natural gas or electrical power facilities available to all small communities so that they can attract business and industry. Implementation of such infrastructure would be of benefit to the state in terms of economic activity but probably not cost efficient enough to merit the expenditure in all rural areas and communities from an economic point of view. In addition and perhaps most importantly, it would be extremely challenging or impossible from a political point of view to get the funding levels needed for that type of an approach. At the same time the concept of universal service has been and should continue to be fundamental to Nebraska's approach. The concept of "universal service" almost requires that some minimum level of data speeds be determined with the acknowledgement that the minimum level defined and affordability from a funding point of view will yield a result which will still not meet the desires of a significant part of the constituency. A realistic data speed and availability goal needs to be set and will need to be modified (upwards) from time to time but needs to consider the political and economic realities of implementation.

3. Should there be technology preferences for the means by which broadband availability is deployed?

Response: The easy answer is "no" and in those areas where subsidies are not necessary, that is the right answer because of the rapidly changing technologies and the competition which exists in those areas. However in those areas where funding subsidies may be required for deployment of the desired data speeds, the real answer is more complicated. Typically the data transport capacity of fiber optics with continually improving electronics has always been ahead of wireless capabilities in terms of data capacity and that appears likely to continue if for no other reason than the limitations on wireless spectrum. The wireless carriers in Nebraska have demonstrated the desire to utilize fiber for transport between towers and switches for a variety of reasons however primarily because of the continuing demand for higher data capacity across their networks. If Nebraska is going to continue to increase data speeds across the state, it should make sure the appropriate funding mechanisms are in place to ensure that fiber optic deployment continues for purposes of the backbone to communities, regions and wireless towers and switches within the state. Nebraska has actually done a pretty good job of that utilizing the Nebraska Universal Service Fund. However it is possible, as evidenced by the wireless/wireline selection decisions that customers are making today, that the last 100 feet, 1000 feet, perhaps in some cases 1, 5 or 10 miles could be either wirelines (fiber) or wireless, or in some cases, legacy copper augmented by fiber nodes to shorten loop lengths as an interim step. The challenge in terms of funding is really more of the "last mile" funding, "last mile" being defined as the fiber or wireless connection from the community or in some cases a fiber node to the customer. A good argument could be made that fiber to all residents is the best long term data transport answer because of the ever increasing demand for higher speeds and the adaptability of fiber facilities to handling those ever increasing speed demands. At the same time however the mobility of the end user also argues for making sure that "last mile" wireless facilities are in place. It would be best if we could leave the choice of last mile connection being wireline or wireless for high speed services to the consumer, however if the State is funding it from limited sources it may be that the State has to make a choice of which to fund or at least set up a mechanism for making such choices based on local population density and efficiency.

4. Should the State of Nebraska maintain restrictions on the provision of broadband services by political subdivisions of the state? In the alternative, should exceptions be allowed that would enable the formation and operation of public-private partnerships that enable broadband deployment?

Response: The answer to the first question is unequivocally "Yes", the restrictions on political subdivisions should continue. It is important to first recognize that the cost of laying a mile of fiber or putting up a wireless tower does not become less costly when political subdivisions such as Nebraska's power districts, municipalities or counties construct the infrastructure. Having government lay fiber and put up wireless towers does not save costs, it simply shifts costs from the telecommunications rate payer to the taxpayer, at best. Historically, Nebraska has chosen a regulated private enterprise system utilizing universal service funding mechanism's as it's method of deploying telecommunications in Nebraska to higher cost areas. We should not forget that it has worked for voice communications and it can work for broadband just as well and to some extent has already started working. We should not forget the tremendous benefits we already have from the utilization of telecommunications deployed by both wireline and wireless providers in Nebraska. In Lincoln and Omaha there is reasonably robust competition amongst private providers which is yielding lower prices and multiple choices for businesses to be sure and more recently individual residents. The result has been significant data center location business activity among other things.

The fiber deployment to virtually every community in Nebraska has resulted in a variety of statewide networking opportunities and benefits for hospitals, schools, government and statewide enterprise businesses. For example, the CIO's office has reported that internet access and data transport rates they are seeing for their school networks have continued to decrease and fairly rapidly. My understanding is that those results compare favorably to what they see from their peers in other states. That is a direct result of the significant amount of backbone fiber structure which has been deployed by the private telecommunications companies and in part because of Nebraska Universal Service Funds. When you put political subdivisions in the business of providing telecommunications, the playing field is no longer level and it will chill competition in those areas which have competition in telecommunications or have some potential competition. For those areas where competitive networks are less likely (i.e. smaller communities and rural farms, ranches and businesses) because of the fact the area will not economically support the construction of more than one network, the problem becomes an even more challenging economic model. It does not make sense to have a private telecommunications company provide telecommunications in a community of 500 people and the farms surrounding it and also have a city/village government provide service in competition with it. It is not realistic to think that Nebraska can subsidize two networks in rural areas and communities of that size. Also consider what happens when a village/city decides to provide broadband. Will that city/village make sure all the surrounding rural residents have broadband as well or is it essentially cherry picking the customers that are less expensive to serve by virture of being in the more densely populated area and leaving the carrier of last resort with an even higher cost per connection to absorb and therefore seeking even higher subsidies. If the desire is to assess or tax the people and inject additional funding beyond what is going into telecommunications today, we have a system in place which can be utilized to do that. That is the Nebraska universal service fund. If there is dissatisfaction with either the amount of funding taking place through that Nebraska Universal Service Fund mechanism, let's figure out how to increase the size of the fund. If there is dissatisfaction with how the money is distributed or for what investments it is utilized, let's change the distribution method. However we should not throw the baby out with the bathwater and that is what putting government in the telecommunications business would do.

Now as to the second question, there may be what I would label more surgical regulatory or statutory steps which could be taken to encourage additional cooperation between the public sector private sector telecommunications providers to put in place for broadband infrastructure. Political subdivisions, including public power districts, can make sure that public right's of ways and poles are available to telecommunications providers on a non-discriminatory and economical basis. Political subdivisions and railroads can minimize the occupation taxes, franchise fees or permitting fees for telecommunications carriers utilizing or crossing their rights of ways. State Government can ensure that sales or use taxes are not imposed between telecommunications carriers utilizing each other's networks. And finally, and most importantly, political subdivisions including public power districts can utilize the existing fiber networks for their data transport rather than building their own private networks. The school networks example cited earlier and their utilization of private sector infrastructure is a prime example of making this work. The schools received very competitive bids for the telecommunications services and at the same time, the revenue received by the telecommunications carriers for providing those services helped defray some of the common costs of the carrier networks which in turn allows them to keep their costs to other Nebraska telecommunications customers lower. If the power districts are planning on remote meter reading or electrical controls for their network utilizing wireline or wireless telecommunications, perhaps planning could take place which would make better use of utilizing the existing and yet to be built telecommunications infrastructure rather than public power districts building their own facilities.

Not only does this save government from getting into the complications and costs of being in the telecommunications business, it also helps the telecommunications carriers spread their network costs over a broader base, making it more affordable for all residents. It also keeps the political subdivisions focused on what they do well, whether it be public power, public safety or education. This is particularly crucial in rural areas.

5. Are existing cost recovery mechanisms adequate to ensure that all Nebraskans will have access to broadband services that are reasonably comparable in cost and service quality?

Response: Even though some may disagree over how it is working, the short answer is "yes", the mechanism is in place. The Nebraska Universal Service Fund is a cost recovery mechanism which is and can still be the foundation for recovering the costs necessary to advance broadband deployment and determining the distribution of those funds. However the mechanism that is in place may not be accomplishing the result desired or at least not accomplishing as much as we would like it to accomplish. Here are some additional steps which should be considered:
<u>Step One:</u> Currently the Nebraska Universal Service Fund collects funds based on a percentage of "voice revenues". This collection method needs changed to a new method which takes into account the current day realities that people are not spending their money on voice but rather data. A "connection based" method such as the Nebraska Public Service Commission is currently considering would be a step in the right direction.
<u>Step Two:</u> A change in the distribution system should be considered. Presently there are some "earnings of companies" and "capital expenditure" type criteria which determine how the money is distributed. My suggestion would be that the system be changed to a much stronger "performance based" model. For example, a telecom company will recover some of their costs from that fund if it is providing services in a high cost area if it delivers "X" level of data speeds.
<u>Step Three:</u> A conscious decision on whether or not there needs to be a higher level of funding needs to be made. As a matter of public policy does the state want to deploy higher data speeds availability in a more accelerated manner than is currently being done. The desire to do so will need to be balanced against political and economic realities. There may not be the necessary real or perceived economic benefit and/or the political will to do this step.
<u>Step Four:</u> If some combination of Steps (1), (2) and/or (3) do not accomplish the desired result and there are still areas of the State where the existing telecommunications carriers in that area are not deploying the necessary broadband to meet whatever minimum standards are determined even with the Nebraska Universal Service Funding offered to them, then a structure should be set up to distribute those Universal Service Funds or a portion of them to an alternative carrier who is willing to do so. This step will without question be the most challenging to do in an equitable manner.

Although I have suggested the above steps in an order of priority, these steps listed above can be taken in order or could be pursued all at the same time.

Connecting Your Community: Bringing the Community Together, Bridging the Digital Divide, and Building Skills

Explore strategies and develop a community plan to bridge the Digital Divide. This may include:

- Addressing the need for students to have access to high-speed Internet access to complete homework and develop.
- Providing public access through the library and/or other facilities.
- Working with telecommunications providers on programs for low-income individuals.
- Providing opportunities to learn and use new technologies
- Exploring options to enhance broadband services in the library as the library often plays a key role in providing access to those who lack broadband at home and in providing training opportunities.
    - E-Rate awareness
    - Explore school-library partnerships
    - Next Gen Wi-Fi

Digital Inclusion Star Communities Quiz

- Do members of your community want to address digital equity?
- Are the number of computers in the library adequate?
- Are the computers in the library up to date?
- Does your community have WiFi access available in the community at the library?
- Does your community's library have adequate broadband access? *How are we defining this?*
- Does your community's library apply for eRate funding?
- Would your library, library board, schools, school board, and community be interested in exploring a school-library partnership to improve library broadband service?
- Does your library offer free or low cost classes on using technology?
- Does your community have WiFi access available places other than the library?
- Does your community have a WiFi hotspot check out program in the public library?
- Does your community have a WiFi hotspot check out program in the school library?
- Does your community have other programs to address the need for Internet access for students who do not have Internet access at home but need to use the internet to complete homework?
- Have representatives of the school, library, and community met to discuss ways to address the need for students who don't have Internet access at home?
- Does your community have a makerspace available to provide opportunities to collaborate, create and learn new technologies?
- Is your community interested in starting a makerspace?

Scoring

- **Digital Inclusion Gold Star Community**—If you answered "yes" to 12 or more questions, your community is a Digital Inclusion Gold Star Community.

- **Digital Inclusion Silver Star Community**—If you answered "yes" to 9-11 questions, your community is a Digital Inclusion Silver Star Community.
- **Digital Inclusion Emerging Star Community**—If you answered "yes" to 0 to 8 questions, but want to work with other community stakeholders to improve digital inclusion, your community is a Digital Inclusion Emerging Community.

Recruiting Communities

- IMLS applications
- Nebraska Library Association Conference
- Nebraska Broadband Today Conference
- Spark Grant—Start recruiting in January. Find out in April

Community Council
Action Items

Draft Sept. 20, 2017

1. **Action: Support the efforts of communities to address broadband-related development by sharing broadband-related news and highlighting exemplary programs through the Broadband Nebraska newsletter, social media, and other activities through the Nebraska Broadband Initiative.**

   Lead: NITC Community Council, University of Nebraska-Lincoln Extension and Center for Applied Rural Innovation, Nebraska Public Service Commission, and Nebraska Library Commission

   Participating Entities: NITC Community Council, Nebraska Public Service Commission, University of Nebraska-Lincoln Extension and Center for Applied Rural Innovation, the AIM Institute, and other interested stakeholders.

   Timeframe: 2017-2018

   Funding: Leveraging existing resources

   Targets/Deliverables:

   1. At least 4 issues of Broadband Nebraska Newsletter per year
   2. Other partnership activities

2. **Action: Expand awareness and address the need for digital inclusion and equitable broadband access through educational materials, best practices and community outreach.**

   Lead: Community Council and Education Council

   Participating Entities: NITC Community Council, Education Council, Nebraska Broadband Initiative

   Timeframe: 2017-2018

   Funding: Leveraging Existing Resources

   Targets/Deliverables:

   1. Develop and share educational materials and profiles of exemplary programs.
   2. Work with the Community Council, Education Council and Nebraska Broadband Initiative to develop an outreach program to help communities better understand and address digital equity issues.

3. **Action: Support the efforts of Network Nebraska and the Education Council to address digital equity and to explore partnerships to improve library broadband access.**