

**Nebraska Information Technology Commission  
Community Council  
Friday, May 12, 2017  
9:30 A.M. CT – 12:00 noon CT**

**Nebraska Public Service Commission  
1200 N Street, Suite 300, Hearing Room  
Lincoln, NE 68508**

**Desk Top Video Sites Upon Request:**  
University of Nebraska Extension-Sidney  
902 Jackson Street, Sidney, NE

**Tentative Agenda**

9:30	Roll Call Notice of Posting of Agenda Notice of Nebraska Open Meetings Act Posting Approval of <a href="#">Sept. 14, 2015 minutes*</a> Approval of <a href="#">March 31, 2016 minutes*</a> Approval of <a href="#">Sept. 19, 2016 minutes*</a> Public Comment
9:40	<b>TV White Space Update</b> —Tom Rolfes
9:50	<b>Broadband and Libraries</b> —Tom Rolfes and Holly Woldt <ul style="list-style-type: none"> <li>• Libraries and Network Nebraska</li> <li>• IMLS/Internet II Toward Gigabit Libraries Toolkit Project</li> </ul>
10:00	<b>Public-Private Partnerships/Coops and Broadband</b> —Connie Hancock University of Nebraska Extension: Timothy Lindahl, Wheatbelt Public Power; Eric Carstenson, Nebraska Telecommunications Association
10:20	<b>Membership</b>
10:25	<b>Nebraska and the Digital Divide Index 2015</b> Tentative Discussion Questions: <ul style="list-style-type: none"> <li>• Do you feel that the data accurately reflects the state of broadband availability in Nebraska in 2015?</li> <li>• Do you think that 2016 data would tell a different story?</li> <li>• What strategies could be employed to facilitate continued development of broadband in higher speed tiers in Nebraska?</li> <li>• What strategies could be employed to facilitate greater subscription of broadband at higher speed tiers?</li> </ul> Links <ul style="list-style-type: none"> <li>• <a href="#">Nebraska and the Digital Divide Index (PDF)</a></li> <li>• <a href="#">Digital Divide Index 2015</a></li> </ul>
10:45	<b>Nebraska Broadband Today!</b> —October 26, 2017, Eric Carstenson
10:55	<b>FirstNet Update</b> —Bob Wilhelm
11: 15	<b>Makerspace Updates</b> <ul style="list-style-type: none"> <li>• Sidney Create!</li> <li>• Blair Public Library and Technology Center</li> <li>• Nebraska Library Commission Grant</li> </ul>
11:50	Newsletter Ideas
Noon	Adjourn

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Meeting announcement posted on the NITC Website and Nebraska Public Meeting Website on May 5, 2017. Agenda posted on the NITC Website on May 8, 2017.

# Community Council

Monday, Sept. 14, 2015

1:30 p.m. to 3:30 p.m. CT (12:30 p.m. to 2:30 p.m. MT)

**Lincoln:** Executive Building, 521 South 14<sup>th</sup> St, 1<sup>st</sup> floor videoconferencing room

**Public Participation Sites** [NEB. REV. STAT. § 84-1411(6)]:

**Sidney:** ESU 13, 1114 Toledo Street

**Grand Island:** Grand Island Public Library, 211 N. Washington St.

## MINUTES

### ROLL CALL, NOTICE OF POSTING OF AGENDA, & NOTICE OF NEBRASKA OPEN MEETINGS ACT POSTING

#### Members Present:

Pam Adams

Chris Anderson

Jay Anderson

Rod Armstrong

Brett Baker

Randy Bretz

Jessica Chamberlain

Shonna Dorsey

Phil Green

Dave Hahn

Steve Henderson

Jacob Knutson

Joan Modrell

Commissioner Jerry Vap

Holly Woldt

Charlotte Narjes for Connie Hancock

**Members Present at Public Participation Sites:** Connie Hancock (Sidney), Steve Fosselman (Grand Island) Megan McGown (Grand Island)

**Members Absent:** Norene Fitzgerald, David Lofdahl, Monica Lueking-Crowe, and Marion McDermott

### ROLL CALL, NOTICE OF POSTING OF AGENDA, & NOTICE OF NEBRASKA OPEN MEETINGS ACT POSTING

The meeting was called to order by co-chair Rod Armstrong. Fifteen members and alternates were present in Lincoln at time of roll. A quorum was present.

The meeting announcement was posted on the Nebraska Public Meeting calendar on Sept. 4, 2015 and the NITC website on Sept. 11, 2015. The agenda was posted Sept. 11, 2015. A copy of the Nebraska Open Meetings Act was available on the table.

## **PUBLIC COMMENT**

There were no public comments.

## **APPROVAL OF APRIL 8, 2015 MINUTES\***

There were no corrections to the minutes. Brett Baker moved to approve the April 8, 2015 minutes. Jay Anderson seconded the motion. **The vote was as follows: Adams-Yes, C. Anderson-Yes, J. Anderson-Yes, Armstrong-Yes, Baker-Yes, Bretz-Yes, Chamberlain-Yes, Dorsey-Yes, Green-Yes, Hahn-Yes, Henderson-Abstain, Knutson-Yes, Modrell-Yes, Vap-Yes, Woldt-Yes. (14-Yes, 0-Nay, 1-Abstain)** Motion carried.

**Members Present at Public Participation Sites:** Connie Hancock (Sidney), Steve Fosselman (Grand Island) Megan McGown (Grand Island)

**Members Absent:** Norene Fitzgerald, David Lofdahl, Monica Lueking-Crowe, and Marion McDermott

## **UPDATES**

**Community Broadband Awards.** Anne Byers reported that Nebraska Community Broadband Awards will be awarded in three categories: Infrastructure, Digital Literacy, and Youth. Ms. Byers will be notifying those who submitted applications on Sept. 15. The award winners include the Rural Nebraska Healthcare Network Broadband Fiber Network (Infrastructure), Interface Web School (Digital Literacy), and Nebraska 4-H Robotics FIRST Lego League (Youth). Award winners will be invited to participate in a panel discussion at the Rural Futures Conference on Oct. 21. The nominees could be highlighted as best practices.

**The Rural Futures Conference.** Charlotte Narjes reported that the Rural Futures Conference will be held Oct. 21-23 at the University of Nebraska's Innovation Campus. Two sessions during the Oct. 21 pre-session will focus on broadband. Roberto Gallardo from Mississippi State University will lead a session at 8:30 a.m. on community planning. A session at 10:30 a.m. will focus on community success stories and will feature the winners of the Community Broadband Awards Program.

**Best Practices.** The group discussed ideas for best practices. Anne Byers suggested that the Council and the Nebraska Broadband Initiative consider partnering on the development of best practices as an action item supporting the Community IT Development strategic initiative in the statewide technology plan. Members were supportive. In addition to best practices on infrastructure, digital literacy and youth, members recommended focusing on workforce development.

Members were interested in highlighting innovative teachers and K-12 technology programs. Other ideas included addressing technology trends and how to approach public officials. Other potential partners include the Nebraska Library Commission, Nebraska Library Association, NACO, the League of Nebraska Municipalities.

Joan Modrell shared information on the Nebraska Re-employment Initiative. The new program recently announced by Governor Ricketts requires nearly all jobseekers who receive unemployment benefits to enroll in an individualized reemployment plan to remain eligible for benefits. Technology will play a role

in providing services across the state. The Department of Labor is interested in how consumers access services and what types of technologies employers are using.

## **COMMUNITY BROADBAND PLANNING WORKBOOK AND WORKING WITH COMMUNITIES**

Connie Hancock shared efforts by members of the Sidney community to address broadband availability in the rural areas surrounding Sidney. A group has been meeting and is working on a checklist developed by Roberto Gallardo from Mississippi State University's Intelligent Communities Institute. The group is also using the broadband planning workbook. Members are considering developing a cooperative. Commissioner Vap commented that large non-rural telecommunications companies are reluctant to invest their own money in rural areas. The cost to install fiber is significant, with the cost of installing fiber estimated at \$5,000 per mile. He offered to meet with interested community members on Monday, Sept. 21. Connie Hancock agreed to try to set up a meeting.

Members discussed the challenges of accessing broadband in some rural areas. Funding from the Connect America Fund Phase II to large non-rural providers may help. Commissioner Vap commented that the Nebraska Public Service Commission will also be issuing an order requiring telecommunications companies who receive funding from the Nebraska Universal Service Fund High Cost Fund to spend 50% of that funding on improving broadband services.

## **ACTION ITEMS TO SUPPORT THE STATEWIDE TECHNOLOGY PLAN**

The Nebraska Information Technology Commission annually updates a statewide technology plan. The Commission has identified several strategic initiatives which will be included in the new plan. One of these strategic initiatives is Community IT Development. The Community Council has been tasked with developing action items to support this initiative. A draft of the initiative was included in the meeting materials. Members had earlier discussed identifying and highlighting best practices as a potential action item.

Tom Rolfes presented two draft action items from the Education Council which have a broadband focus:

### **Network Nebraska Initiative**

1. Prepare for the future of Network Nebraska as a statewide, multipurpose, high capacity, scalable telecommunications network that shall meet the demand of state agencies, local governments, and educational entities as defined in section 79-1201.01.
  - 1.1. Challenge the Network Nebraska Advisory Group (NNAG) Participant Criteria subcommittee to develop a strategy for community affiliate connections into Network Nebraska. (This would relate mainly to libraries, zoos, science centers, museums, etc...)

### **Digital Education Initiative**

1. Expand awareness of the need to address poverty as it relates to digital education.
  - 1.1. Education Council will work in collaboration with the Community Council Broadband Initiative to find solutions for available, accessible, reliable, secure and affordable Internet access as related to academic success.

Members were interested in supporting these action items. Connie Hancock recommended making a motion to support both of those initiatives. Phil Green made a motion to draft action items supporting the draft Education Council action items. Steve Henderson seconded the motion. The motion passed by unanimous voice vote.

Randy Bretz made a motion to draft an action item to identify and develop best practices related to the availability and use of broadband in communities. Steve Henderson seconded the motion. The motion passed by unanimous voice vote.

The meeting adjourned at 3:30 p.m.

# Community Council

Thursday, March 31, 2016

9:30 a.m. to 12:00 noon CT (8:30 a.m. to 11:00 a.m. MT)

Nebraska Public Service Commission, 1200 N St., Suite 300, Lincoln, NE in the hearing room

Grand Island Public Library, 211 N Washington St. , Grand Island, NE

ESU 13, 1114 Toledo St., Sidney, NE

Norfolk Voc Rehab, 1212 Benjamin Ave., Norfolk, NE

University of Nebraska Kearney, CMCT 250, Kearney, NE

## MINUTES

### ROLL CALL, NOTICE OF POSTING OF AGENDA, & NOTICE OF NEBRASKA OPEN MEETINGS ACT POSTING

#### Members Present:

Pam Adams

Jay Anderson

Rod Armstrong

Randy Bretz

Steve Fosselman (at Grand Island Public Library)

Connie Hancock (at ESU 13)

Commissioner Jerry Vap

Holly Woldt

**Members Absent:** Chris Anderson, Brett Baker, Jessica Chamberlain, Shonna Dorsey, Phil Green, Dave Hahn, Steve Henderson, Jacob Knutson, David Lofdahl, Monica Lueking-Crow, Megan McGown, Joan Modrell

### ROLL CALL, NOTICE OF POSTING OF AGENDA, & NOTICE OF NEBRASKA OPEN MEETINGS ACT POSTING

The meeting was called to order by co-chair Rod Armstrong. Seven members were present at time of roll. A quorum was not present. The meeting announcement was posted on the Nebraska Public Meeting website on March 4, 2016 and the NITC website on Feb. 25, 2016. The agenda was posted on March 25, 2016. A copy of the Nebraska Open Meetings Act was available on the wall.

### PUBLIC COMMENT

There were no public comments.

### UPDATES

**Nebraska Broadband Today!** The Nebraska Telecommunications Association (NTA) and the Nebraska Broadband Initiative (the University of Nebraska, Nebraska Public Service Commission, NITC Community Council, and AIM) are partnering to put on a statewide broadband conference on May 24, 2016 at the Cornhusker Marriott in Lincoln. Members were sent a link to the agenda and registration site. Ms. Byers thanked the NTA for their leadership and support in organizing the conference. Members of the NTA and Nebraska Broadband Initiative will staff a solutions center to answer questions and share resources.

**Lincoln Skills Gap Report.** A shortage of skilled IT workers has been identified as an issue by the Community Council and many other groups working in Nebraska. A recent report from the Department of Labor includes information on the skills gap in Lincoln. The report indicates that there are 220 annual net openings for computer and mathematical occupations and 148 annual college or community college graduates. Rod Armstrong said that he has heard that the shortage of IT workers is even greater than the study indicates.

**Funding Sources for Broadband.** Connie Hancock shared information on a list of funding resources for broadband that she is compiling for the Nebraska Broadband Initiative. The USDA has already provided information. The Cool and Connected Program is a USDA pilot program to help communities develop strategies for using broadband service to promote, sustainable community development. Ms. Hancock worked with other members of the Sidney community to submit a letter of interest. Other Nebraska communities may also have applied. The Public Service will be provide additional information on their programs to be included in the list of funding sources. The list will be made available at the Nebraska Broadband Today! conference.

**MarkeTECH Conference.** Rod Armstrong shared information on the MarkeTECH Conference which will be held April 26-27 at the Holiday Inn Convention Center in Kearney.

**Nebraska Universal Service Fund and Nebraska Internet Enhancement Fund.** Commissioner Vap and Gene Hand shared information on the Nebraska Universal Service Fund (NUSF) and the Nebraska Internet Enhancement Fund (NIEF). In January the Nebraska Public Service Commission allocated \$4 million for wireless broadband infrastructure projects and \$500,000 for Broadband Availability and Adoption Grants. Applications are due March 31, 2016. Up to \$150,000 will likely be available later this year through the Nebraska Internet Enhancement Fund.

Gene Hand also gave an update on a recent FCC order seeking reform of the Federal Universal Service Fund. This change will allow support for rate-of-return carriers for the infrastructure necessary to connect the consumer (last mile facilities) when broadband is the only service provided at that location. Rate of return carriers are generally located in rural areas and tend to serve small populations with low density. The FCC is expected to issue an additional order on March 31, 2016 modernizing the Lifeline program to support stand-alone broadband as well as bundled voice and data service packages.

## **ACTION ITEMS TO SUPPORT THE STATEWIDE TECHNOLOGY PLAN**

Ms. Byers discussed the Community Council's action item to develop case studies and highlight success stories. Descriptions of a couple of projects have been developed. The projects already highlighted include:

- Rural Nebraska Healthcare Network Broadband Fiber Network
- Interface: The Web School
- Nebraska 4-H FIRST Lego League
- Lincoln City Libraries bandwidth project

The group identified other projects which could be highlighted:

- Lincoln City Libraries will be putting in a Maker Space in the basement of Bennet Martin Public Library.



- The library in Sidney is also developing a Maker Space.
- The Library Commission is working on a proposal with Extension to develop portable Maker Spaces.
- UNL Extension's youth entrepreneurship initiative is developing maker kits.
- Schuyler is addressing the need for public access broadband by converting a vacant building into a public access site.
- Beatrice Public Library is working with the school district on improving Internet access.
- Glenwood Telephone is putting in Fiber to the Premise to all customers in the Keystone and Arthur exchanges. The project is funded in part by the Nebraska Universal Service Fund.
- Central Community College has put together a fiber network to connect their campuses and develop a video education network.
- Pioneer Consortium, a consortium of 24 libraries, is partnering on a statewide Koha open source union catalog.
- A group in Lincoln is looking at preparing citizens for Gigabit service.
- Network Nebraska continues to add members and decrease costs.
- Recent legislation and legislative resolutions related to broadband could be highlighted.

The group discussed a strategy for disseminating these success stories. Ms. Byers suggested a bi-monthly newsletter. Members were supportive. Ms. Byers asked for volunteers to contribute. Holly Woldt, Randy Bretz, Connie Hancock, Charlotte Narjes, and Jay Anderson volunteered.

The Community Council will also develop a social media strategy. Ms. Byers asked for volunteers to serve on a work group to address this. Connie Hancock, Jay Anderson, and Pam Adams volunteered. Shonna Dorsey may also be interested.

**Education Council Broadband-Related Action Items: Equitable Access for Students/Network Nebraska Participation by Other Entities.** Tom Rolfes led a discussion on how members could support the Education Council's broadband-related initiatives. Two representatives of the Education Council, Burke Brown and Andy Boell, also participated in the discussion. Mr. Rolfes shared information on Nebraska's involvement in Internet2's Institute of Museum and Library Services (IMLS0) grant. Tom Rolfes and Holly Woldt will be traveling to Chicago for a meeting on May 19 to begin planning the development of a broadband assessment toolkit which will be piloted with at least 30 rural and tribal libraries across 5-7 states. Nebraska was chosen to participate because of the state's high number of very small libraries.

Mr. Rolfes also discussed Network Nebraska's potential to connect libraries in Nebraska. Earlier this month, Network Nebraska has revised its criteria for participation which recognizes and accommodates lower bandwidth entities, potential non-profit educational content providers, and those education entities that connect to Network Nebraska through other participants. A subgroup of Community and Education Council members will meet at 1:00 to continue the discussion.

## RESIDENTIAL INTERNET ACCESS COST IN NEBRASKA

Tim Obermeier, a professor at the University of Nebraska at Kearney, spoke to the group about his research on residential Internet access cost in Nebraska. The study was designed to answer the following research questions:

1. What is the average cost per Mbps for residential Internet access in Nebraska?
2. What is the average cost per Mbps for residential internet access for each classification of Nebraska municipality?
3. What is the average cost per Mbps for digital subscriber line, terrestrial wireless, fiber, and cable delivery methods of residential internet access in Nebraska?
4. What is the average cost per Mbps for residential broadband Internet access in Nebraska?

Nebraska has five city classes. Omaha is the only city of the metropolitan class and Lincoln is the only city of the primary class. Thirty cities were randomly selected from each of three remaining city classes in Nebraska as established by statute. ISPs were identified for each city selected, and information on price and data rates was collected in the late fall of 2014 through the spring of 2015. The study did not look at business class, bundles or special contracts.

Findings and observations included:

- Residents of the Metropolitan class (Omaha) experienced on average the lowest Internet access cost per Mbps.
- Residents of First Class, Second Class, and Village combined, pay on average 8.5% more than residents of Primary and Metropolitan combined.
- Residents with 4Mbps/1Mbps broadband experience lower cost per Mbps than other rates of access.
- Residents of the Primary class (Lincoln) experience the lowest rates for 4Mbps/1Mbps broadband access.
- Residents of First Class, Second Class, and Village combined, pay on average 63% more than residents of Primary and Metropolitan classes combined for 4Mbps/1Mbps broadband access.
- For 4Mbps/1Mbps DSL service: Residents of First Class, Second Class, and Village combined, pay on average 170% more than residents of Primary and Metropolitan classes combined for 4Mbps/1Mbps broadband access.
- Nebraska residents across all communities have very limited access to 25Mbps/3Mbps service.

**Adjournment.** The meeting was adjourned.

**COMMUNITY COUNCIL**  
**Nebraska Information Technology Commission**  
**Monday, Sept. 19, 2016 9:30 A.M. CT – 12:00 noon CT Nebraska**  
**Public Service Commission 1200 N Street, Suite 300, Hearing Room Lincoln, NE 68508**  
**Public Participation Site: University of Nebraska Extension-Sidney 902 Jackson Street, Sidney, NE**  
**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 eight members present. A quorum was not present to conduct official business. Approval of the [September 14, 2015 minutes\\*](#) and [March 31, 2016 minutes\\*](#) were tabled until a quorum was present. The meeting proceeded with informational items and discussion. A copy of the Nebraska Open Meetings Act was available on the table and on the wall. The meeting announcement was posted to the NITC and Nebraska Public Meetings websites on Sept.12, 2016. The agenda was posted on Sept. 12, 2016.

**Members Present:** Chris Anderson, Jay Anderson, Jessica Chamberlain, Steve Fosselman, Charlotte Narjes for Connie Hancock, Jacob Knutson, Jerry Vap, and Holly Woldt

**Members at Public Participation Sites:** Megan McGown and Connie Hancock

**Members Absent:** Pam Adams, Rod Armstrong, Brett Baker, Randy Bretz, Shonna Dorsey, Phil Green, Steve Henderson, David Lofdahl, and Joan Modrell

**PUBLIC COMMENT**

There was no public comment.

**WORKFORCE DEVELOPMENT**

**Updated Statistics on IT Graduates.** Ms. Byers indicated that the # of IT and engineering graduates is one of the bench mark action items in the Statewide Technology Plan. Jacob Knutson, Department of Economic Development, distributed a report of IT Degree Completions:

<b>IT Degree Completions in Nebraska</b>				
	<i>Female</i>	<i>Male</i>	<i>TOTAL</i>	<i>Fem %</i>
<b>2011</b>	168	715	883	19.02
<b>2012</b>	178	759	937	18.99
<b>2013</b>	187	821	1008	18.55
<b>2014</b>	212	894	1106	19.17
<b>2015</b>	214	828	1042	20.54

The top two institutions for IT degree completions are Bellevue University and UNO.

**Technology Association of Nebraska (TAN)—Stan Pierce, Executive Director**

Mr. Pierce distributed information about TAN which originally began as an advisory group of the Department of Economic Development. TAN was officially launched in April 2016. It is a small organization with a Board of Directors. There are four pillars of focus: Visibility, Education, Workforce and Advocacy. Their activities include promoting technology careers at education conferences, providing grant support and organization overviews to different group. The association looks for collaboration among entities working in technology. TAN does not oversee any activities, but would like to be a clearing house of information to promote and collaborate activities. Members were given an opportunity to ask questions. Items and points of discussion included:

- The need to reach youth at an early age to introduce and expose them to IT careers even prior to middle school age.
- Best to have “young” professionals talk to youth about IT careers.
- NDE, NDED, and Governor’s office could drive the effort to include IT curriculum in schools.
- Many public libraries host IT classes and activities for both adults and youth.
- It was recommended to bring everyone to the table to begin strategizing about IT access for families. Even though schools are providing students with notebooks or tablets, the home may not have internet available.

## **JOINT COMMUNITY AND ED COUNCIL EQUITABLE BROADBAND ACCESS FOR STUDENTS ACTION ITEMS**

**Potential TV White Space Project—Tom Rolfes, NITC Education Manager.** The statewide technology plan has action items that involve both the Education and Community Councils:

- Action: Expand awareness and address the need for equity of access as it relates to digital education.
- Action: Support the Education Council’s efforts to expand awareness and address the need for equity of access as it relates to digital education.

Some schools that have implemented one-to-one devices for students are finding that not all students have sufficient, reliable internet access at home. Mr. Rolfes presented a briefing paper which provided background information and made two recommendations:

**RECOMMENDATION 1:** Public and private schools that rely heavily on digital curriculum resources, and who expect students to connect to the Internet in order to complete homework assignments, should take steps to assess which students have sufficient wired internet speeds at home.

**RECOMMENDATION 2:** Public and private schools should take steps to assist student households that have inadequate internet access to achieve equity of access.

Mr. Rolfes asked council members to review the document and send him any suggestions. Members suggested adding the broadband coverage map, rural poll data and information on satellite.

Commissioner Vap said that the FCC is in the process of reforming the Lifeline program to provide assistance for broadband to low-income consumers. The changes are expected to become effective December 1, 2016. The FCC will allow a Lifeline credit of \$9.25 to be applied to broadband service. Some providers have programs for low-income consumers.

Mr. Rolfes also discussed TV white space. A primer was included in the meeting materials. TV white space is not hindered by weather, buildings, etc. and works within a ten mile radius. The first national white space pilots have been completed. Each customer premise interacting with the base station must also have a UHF antenna, customer converter, and Wi-Fi router. A few schools in Nebraska are interested in using TV white space.

**Wi-Fi Lending Program, Norfolk Public Library—Jessica Chamberlain.** Norfolk Public Library’s Wi-Fi lending program started in August. The library’s four hotspots can be checked out for up to three weeks. There is a waiting list for hot spots. The response from the community has been positive.

## **UPDATES/ANNOUNCEMENTS**

**Broadband Conference.** The Nebraska Telecommunications Association (NTA) was planning to discuss possibly sponsoring another broadband conference at their board meeting. If they are supportive,

members of the Nebraska Broadband Initiative will work with the NTA to begin planning a future conference.

**Newsletter/Social Media.** Ms. Byers asked members to send their feedback and input for future articles.

**Nebraska Internet Enhancement Fund (NIEF).** Mr. Robbins announced that funding is available for broadband projects through the Nebraska Internet Enhancement Fund. Pre-applications are due Oct. 14. Projects can receive up to \$50,000 in funding. The commission may award up to three projects this year.

**The Connect America Fund (CAF)** is the FCC's program to expand access to voice and broadband services in areas where these services are unavailable. Through one component of the program, called Connect America Fund Phase II (CAF II), the FCC provides funding to large telephone companies (also known as price cap carriers) to subsidize the cost of building new network infrastructure or performing network upgrades to provide voice and broadband service in areas where it is lacking.

Mr. Vap announced that Cullen Robbins will take over as the Public Service Commission's Telecommunications Director.

**Broadband USA Webinars.** Ms. Byers was asked to participate in a webinar to share information on partnerships and lessons learned. She will talk about NeHII and Network Nebraska.

Mr. Robbins stated that the PSC has awarded broadband adoption grants. The Commission has also allocated \$4 million for wireless projects. Applications have been reviewed and staff recommendations made.

Connie Hancock will be visiting Purdue to learn about their IT programs. The Buffet Child Care Center is interested in learning more about how they can use IT to support training for early childhood educators.

## **NEW BUSINESS**

There was no new business.

## **ADJOURNMENT**

**Ms. Byers adjourned the meeting at 11:45 a.m.**

Members will be polled for the next meeting date.

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

Spring 2017

# Nebraska Broadband

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Broadband Availability Improves, But Does Nebraska Have a Rural-Urban Digital Divide?

Nebraska Broadband Today—Save the Date: Oct. 26, 2017

Nebraska Libraries First to Participate in Broadband Toolkit Pilot

NITC Community Council Meets May 12

PSC Awards NIEF Grant for Fiber Project in Rural Box Butte County

FIRSTNET Awards Contract to ATT, Begins Working on State Plans

PSC Chairman Schram Appointed to NARUC Leadership Position

## Broadband Availability Improves, But Does Nebraska Have a Rural-Urban Digital Divide?

*By Anne Byers, Nebraska Information Technology Commission*

The recent announcement by Governor Pete Ricketts, Department of Economic Development Director Courtney Dentlinger, and local officials that Facebook will be building a data center in Omaha highlights the importance of the growing technology sector in Nebraska—especially in the Omaha and Lincoln areas.

But are all areas of the state part of the Silicon Prairie? Is there a Digital Divide in Nebraska?

The [Digital Divide Index 2015](#), a recent report by Roberto Gallardo at Mississippi State University, provides some interesting insights. Nebraska fares fairly well on socioeconomic indicators, ranking 21 out of the 50 states and District of Columbia and scores a not-great-but-respectable 35 on the composite index for both socioeconomic and infrastructure measures. However, the report ranks Nebraska 48<sup>th</sup> on infrastructure measures, ahead of only Mississippi, Montana, and Alaska.

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*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 34<sup>th</sup> 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.*

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# Nebraska Broadband

**TABLE 1 % POPULATION WITH BROADBAND AVAILABLE –U.S., NEBRASKA AND NEIGHBORING STATES**

State	% Population With Broadband Available 25 Mbps down/3 Mbps up (2015)
United States	90.1%
Colorado	90.0%
South Dakota	85.8%
Kansas	85.8%
<b>Nebraska</b>	<b>84.6%</b>
Iowa	81.0%
Missouri	80.2%
Wyoming	77.1%

**TABLE 2 NEBRASKA COUNTIES WITH BROADBAND AVAILABLE TO OVER 90% OF RESIDENTS**

County	Population (2015)	% Population with No Broadband Available 25 Mbps down/3 Mbps Up (2015)
Merrick	7,780	0.1
Douglas	549,168	0.8
Nance	3,596	1.5
Howard	6,392	2.1
Hall	61,422	2.6
Sarpy	175,690	2.7
Dawson	23,845	3.6
Buffalo	48,732	4.3
Lancaster	305,705	5.1
Box Butte	11,311	5.9
Adams	31,585	7.7
Richardson	8,082	7.8

# Nebraska Broadband

I spent days delving through the county data provided as a supplement to the report to better understand how Nebraska fared so poorly on this measure. My dive into the supplemental data shows a couple of things:

- 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.<sup>i</sup> Nebraska ranked 34<sup>th</sup> 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.<sup>ii</sup>

*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. 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 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. It is important to note

that some rural counties performed quite well on several of the indicators. For example, Keith County with a population of 8,062 had the highest advertised upload and download speeds in the state. Additionally, a look at the [Nebraska Broadband Map](#) shows fiber deployments in some very rural parts 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<sup>iii</sup>, this method probably disadvantaged Nebraska to a greater extent than other states.

## **Broadband Availability/Percent Population with No Access to Broadband**

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.<sup>iv</sup> In comparison, 90.1% of those living in the United States had broadband available to them in 2015. Nebraska ranked 34<sup>th</sup> 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. Nebraska fell in the middle of our neighboring states on this measure, ranking above Iowa, Missouri, and Wyoming but below Colorado, South Dakota, and Kansas. Table 1 shows broadband availability for the U.S., Nebraska, and neighboring states.



# Nebraska Broadband

Twelve Nebraska counties had broadband of at least 25 Mbps down and 3 Mbps up available to over 90% of residents. Over 1.2 million people live in these 12 counties. Table 2 shows the 12 counties with greatest availability of broadband or lowest % population with access to no broadband. As expected, many of these counties are metropolitan counties. However, several rural counties are also on the list.

Many counties in Nebraska saw significant improvements in the availability of broadband of at least 25 Mbps down and 3 Mbps up. Table 3 shows the most improved counties.

Now, let's look at the other side of the Digital Divide. Broadband of at least 25 Mbps down and 3 Mbps up was **not** available to over 95% of residents in 18 Nebraska counties. Nearly 40,000 individuals live in these 18 counties. (See

Table 4.)

## Average Advertised Speeds Per County

Average advertised download and upload speeds in Nebraska lag behind the United States and 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. (See Table 5.)

A further look at the data reveals a significant difference between the state's more populated and less populated 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 popu-

**TABLE 3 MOST IMPROVED NEBRASKA COUNTIES FOR BROADBAND AVAILABILITY**

County	% Population with No Broadband Available 25 down/3 up (2014)	% Population with No Broadband Available 25 down/3 up (2015)	Change 2014-2015
Nance	100.0	1.5	98.5
Merrick	89.0	0.1	88.9
Richardson	92.5	7.8	84.7
Burt	100.0	20.8	79.2
Wayne	100.0	22.5	77.5
Stanton	100.0	25.0	75.0
Polk	99.5	29.3	70.2
Dixon	100.0	30.4	69.6
Cedar	98.6	32.9	65.7
Nemaha	80.5	16.0	64.5
Butler	99.2	39.6	59.6
Otoe	78.4	21.7	56.7
Cuming	100.0	43.8	56.2
Jefferson	96.7	41.4	55.2
Madison	68.8	14.8	54.0
Wheeler	99.5	45.8	53.7
Howard	54.8	2.1	52.7
Saline	75.3	24.5	50.8

# Nebraska Broadband

**TABLE 4 NEBRASKA COUNTIES WITH NO BROADBAND AVAILABLE TO OVER 95% OF RESIDENTS**

County	Population (2015)	% Population with No Broadband Available 25 Mbps Down/3 Mbps Up (2015)
Arthur	457	100.0
Banner	797	100.0
Blaine	492	100.0
Grant	637	100.0
Hooker	733	100.0
Logan	776	100.0
McPherson	477	100.0
Thomas	686	100.0
Hayes	927	100.0
Garden	1,927	100.0
Knox	8,526	99.8
Cherry	5,829	99.7
Hitchcock	2,882	99.5
Harlan	3,447	99.5
Perkins	2,939	99.5
Sheridan	5,214	99.1
Loup	582	97.8
Frontier	2,617	96.5

**TABLE 5 AVERAGE ADVERTISED FIXED DOWNLOAD AND UPLOAD SPEEDS FOR U.S., NEBRASKA AND NEIGHBORING STATES**

State	Avg. Advertised Fixed Download Speed (2015)	Avg. Advertised Fixed Upload Speed (2015)
United States	32.6	12.8
South Dakota	65.2	45.6
Kansas	42.2	27.5
Missouri	40.0	23.0
Iowa	28.4	8.7
Colorado	27.7	7.5
Wyoming	22.6	8.4
<b>Nebraska</b>	<b>20.4</b>	<b>8.5</b>

# Nebraska Broadband

lations 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. (See Table 6.)

## Broadband Subscription to Higher Speed Tiers

In over half of the counties in Nebraska, fewer than 20% of households subscribe to broadband at speeds of 10 Mbps down/1 Mbps up or greater. Nebraska has a significantly more counties with low subscription rates to higher speed tiers than our neighboring states. In some cases the low subscription rates to higher speed tiers may be due to lack of availability of higher speed options. Affordability is also likely to be a factor. Price may be more of an issue for those in smaller communities. Research by Tim Obermier at the University of Nebraska at Kearney has found that residents of communities with populations of 5,000 or less on average pay more for broadband services<sup>v</sup>. (See Table 7.)

## Conclusions and Next Steps

While broadband availability in Nebraska is improving and currently 84.6% of Nebraskans have broadband available at speeds of at least 25 Mbps down and 3 Mbps up, Nebraska appears to be lagging behind our neighboring states and the U.S. in average advertised download and upload speeds and in subscription rates to higher speed tiers—especially in some rural areas of the state. What can we do to help address this issue? Here are my recommendations:

- Bring attention to the issue. This article is a start.
- Talk to broadband providers and officials in Nebraska in order to better understand factors impacting broadband deployment and adoption in Nebraska.
- Talk to broadband providers and officials in other states to determine what strategies are being used to promote the deployment and adoption of broadband.

**TABLE 6 AVERAGE ADVERTISED FIXED DOWNLOAD AND UPLOAD SPEEDS BY COUNTY POPULATION**

County Groupings by Population	Avg. Advertised Fixed Download Speed (2015)	Avg. Advertised Fixed Upload Speed (2015)
Nebraska (All Counties)	20.4	8.5
Nebraska Counties over 20,000	36.5	16.2
Nebraska Counties under 20,000	16.8	6.8

**TABLE 7 # AND % OF COUNTIES IN NEBRASKA AND NEIGHBORING STATES WITH LOW BROADBAND SUBSCRIPTION RATES**

State	# of Counties with low (0-19.9%) subscription rates at 10 Mbps down and 1 Mbps up or greater (2015)	% Counties with low (0-19.9%) subscription rates at 10 Mbps down and 1 Mbps up or greater (2015)
South Dakota	6/66	9%
Iowa	17/99	17%
Wyoming	6/23	26%
Kansas	32/105	30%
Colorado	23/64	36%
Missouri	42/115	37%
<b>Nebraska</b>	<b>52/93</b>	<b>56%</b>

# Nebraska Broadband

- Support efforts to improve broadband access at public libraries. Libraries are an important access point in communities. Providing access at higher speed tiers in libraries can help area residents better understand the benefits of higher speed broadband. Libraries are also an important community asset to address the homework gap—the inequitable situation caused by most but not all students having broadband at home to complete homework. (See related article on page 8.)
- Work with stakeholders in Nebraska to determine additional strategies and resources.

I am looking forward to getting comments and feedback from other stakeholders. You can e-mail me at [anne.byers@nebraska.gov](mailto:anne.byers@nebraska.gov) or call me at 402 471-3805.

## Notes

<sup>i</sup>The 2015 figure was calculated from the Digital Divide Index county dataset 2015 which was obtained using the FCC Form 477 December v2 data set. The Digital Divide 2015 data set is available at <http://ici.msucare.com/resources/ddi>. The 2014 figure is from the national broadband map at <http://broadbandmap.gov>.

<sup>ii</sup>The averages were calculated by averaging the average advertised download speeds for each county in the state or the United States. 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 average advertised download and upload speeds across the geography of the state—but not the population of a state.

<sup>iii</sup>Of the 34 counties in the United States with a population of less than 1,000, 12 are in Nebraska. Texas ranks second with 8 counties with a population of less than 1,000.

<sup>iv</sup>The 2015 figure was calculated from the Digital Divide Index 2015 county dataset at <http://ici.msucare.com/resources/ddi>. The 2014 figure is from the national broadband map at <http://broadbandmap.gov>.

<sup>v</sup>Obermeir, Timothy R. (2016.) Residential Internet Access Cost in Nebraska.

## Nebraska Broadband Today! Save the Date: October 26, 2017

Nebraska's premier conference on broadband availability, adoption and broadband-related development will be held Oct. 26, 2017 at the Cornhusker Marriott Hotel in Lincoln.

Nebraska Broadband Today! will bring together economic developers, community leaders, telecommunications providers, and others to better understand how communities and telecommunications providers can work together.

A series of sessions on Broadband 101, 102, and 103 will help participants:

- Increase understanding and awareness of broadband policies and their impact on broadband deployment as well.
- Increase knowledge and understanding of how to find solutions and advocate for your community/business/community anchor institutions.



# OCTOBER 26, 2017

CORNHUSKER MARRIOTT HOTEL | LINCOLN, NE

The conference is sponsored by the Nebraska Telecommunications Association in partnership with the Nebraska Broadband Initiative.

# Nebraska Broadband

## Nebraska Libraries First to Participate in Broadband Toolkit Pilot

By Holly Woldt, Nebraska Library Commission  
and Tom Rolfes, Nebraska Information Technology Commission

In March, five Nebraska Public Libraries had a unique experience, participating in kick-off site visits for a pilot program funded by a *Laura Bush 21st Century Librarian Program* grant from the Institute for Museum and Library Services (IMLS). The grant was awarded to Internet2<sup>®</sup>, a member-owned advanced technology consortium founded by the nation's leading higher education institutions. The Internet2 U.S. UCAN (Unified Community Anchor Network) division spearheaded the grant application with the intent of assisting small, rural public libraries all across the United States.

This pilot program is focused on providing rural public libraries a comprehensive broadband toolkit as a series of questions with resources available for the library staff to better understand the questions or further explore a particular technology topic. The answers to the toolkit questions assist the library staff in understanding the current state of broadband at the public library as a function of the library's internal and external infrastructure and how it meets (or doesn't meet) the needs of the community.

Public library directors and staff in the Nebraska communities of Atkinson, Gering, Valley, Walthill, and Wymore each



**Wymore Public Library Visit.** Left to Right: Tom Rolfes, Nebraska Information Technology Commission; Janet Roberts, Library Director, Wymore Public Library; Susannah Spellman, Internet2; and Holly Woldt, Nebraska Library Commission.

spent a half a day with Holly Woldt of the Nebraska Library Commission and Tom Rolfes from the State Office of the CIO, who acted as the technical advisors to the five Nebraska libraries.

Library staff and technical advisors examined the details of each library's broadband profile. Susannah Spellman from Internet2<sup>®</sup> participated in site visits to the public libraries in Valley and Wymore. Ms. Spellman said, "We are delighted to partner with the Nebraska Library Commission and Network Nebraska to pilot the IMLS-funded Broadband Toolkit. Being able to leverage the library technology expertise of the Nebraska Library Commission, especially from their *Library Broadband Builds Nebraska Communities* BTOP grant, and the broadband and E-Rate expertise of the State Office of the CIO delivers an even more powerful learning experience for the library staff involved in the pilot."

The toolkit is designed to help library staff assess and evaluate their library's broadband connection and internal Wi-Fi network. Topic areas include how broadband is delivered to



**Valley Public Library Visit.** Left to Right: Holly Woldt, Nebraska Library Commission; Claire Bushong, Library Director, Valley Public Library; Anne Byers, Nebraska Information Technology Commission; Susannah Spellman, Internet2; Tom Rolfes, Nebraska Information Technology Commission; and Garren Hochstetler, Asst. Librarian, Valley Public Library.

# Nebraska Broadband

the library; the library's broadband provider; and infrastructure details including inside wiring, types of devices connecting the library's network, age of wiring and devices; and reliability of the library network (availability and speed). The toolkit includes links to online resources and a glossary to help guide the staff through the assessment activities. As staff work through the assessment with the technical advisors, they identify quick fixes and long-range plans that are summarized in a customized Broadband Improvement Plan for the library.

All five of the pilot libraries appreciated having an opportunity to learn about the status of the broadband in their libraries and identified improvements that could be made immediately (and in the long term) to better serve the library and their community.

"The information in the toolkit that we received will help us learn and prepare to become a bigger and better community *hot spot*. We were presented with resources, hands-on demos, suggestions, and best of all—a timeline to accomplish what will help us improve and be a better asset to our community," said Janet Roberts, Library Director, Wymore Public Library.

*Internet2 is a not-for-profit United States computer networking consortium led by members from the research and education communities, industry, and government. The Internet2 consortium began in 1996 and now connects over 250 colleges and universities, as well as 60,000 community anchor institutions.*

*Network Nebraska is a statewide consortium of public and private K-12 and higher education entities working together to improve the speed, reliability and affordability of high bandwidth fiber infrastructure. The State Office of the CIO and the University of Nebraska cooperatively administer and manage this voluntary, self-funded network that includes over 290 entities.*

## NITC Community Council Meets May 12

The NITC Community Council will meet on May 12 from 9:30 to noon at the Nebraska Public Service Commission hearing room, 1200 N Street, Suite 300. Agenda topics include:

- A discussion of Nebraska and the Digital Divide Index
- Updates on TV White Space, the IMLS/Internet2 Toward Gigabit Libraries Toolkit Project
- A discussion of public-private partnerships/coops and broadband
- Updates on the Nebraska Broadband Today! conference
- Updates on FirstNet
- Updates on Makerspaces

More information is available from the NITC website ([nitc.nebraska.gov](http://nitc.nebraska.gov)). The meeting is open to the public.

## PSC Awards NIEF Grant for Fiber Project in Rural Box Butte County

*By Cullen Robbins, Nebraska Public Service Commission*

On March 21, the Nebraska Public Service Commission (PSC) awarded a \$75,000 grant to Box Butte County from the [Nebraska Internet Enhancement Fund \(NIEF\)](#).

"These monies will be used to further efforts to ensure rural residents in Box Butte County have access to broadband and telecommunications services," said Commissioner Tim Schram, Chairman Nebraska Public Service Commission. "We would encourage local entities and economic development groups to look into applying for a NIEF grant as a way of acquiring startup funding for infrastructure projects."

The grant approved for Box Butte County will be used to help fund a project providing for the installation of fixed fiber leading to increased broadband service to 20 homes north of the city of Alliance.

Commissioner Schram said, "It is our hope this initial grant would lead to future projects focusing on the build out of fiber within Box Butte County."

Established in 2001 by the Nebraska Legislature, the [NIEF](#) uses a share of the proceeds from public entities that lease dark fiber optics to fund grants for infrastructure projects that deliver broadband or other advanced telecommunica-

# Nebraska Broadband

tions products. The grants focus on areas of the state that are unserved or underserved by such services today.

To date, the PSC has awarded \$735,000 in funds from the NIEF to four cities, seven counties and one cooperative across the state.

Due to the availability of additional funds, the PSC intends to open additional grant cycle for 2017. For more information on applying for a NIEF grant, visit the Nebraska Public Service website @ [www.psc.nebraska.gov](http://www.psc.nebraska.gov) and click on the NIEF Grant Information link on the homepage.

## FIRSTNET Awards Contract to ATT, Begins Working on State Plans

*By Bob Wilhelm, Office of the Chief Information Officer, State of Nebraska*

The concept of the Nationwide Public Safety Broadband Network (FIRSTNET) was created by the Middle Class Tax Relief and Job's Creation Act of 2012. The Act directed FIRSTNET to design, build and operate a nationwide interoperable wireless broadband network solely for the use of the public safety community. This network will give public safety officials the ability to send and receive data, telemetry, photo's, videos and voice without having to compete with the general public for access to the network as they do with current providers of broadband services.

Broadband and broadband applications provide public safety access to more information and enhanced situational awareness than is currently available through their land mobile radio systems.

Nebraska has engaged in outreach and educational activities to identify potential network users and stakeholders to keep them informed of the uses of the network and applications that are available to public safety users. Nebraska has also worked with FIRSTNET to provide information about our rural coverage needs and the priority of deployment for FIRSTNET as it is being built out across our state.

On March 30, 2017 FIRSTNET awarded the contract to design, build and operate the nationwide network to AT&T. This opened the door for FIRSTNET and AT&T to begin working together to design the State Plans. It is anticipated that the draft plans will be delivered to the States in early to mid-summer with FIRSTNET projecting that the final State Plans will delivered to the nations Governor's this fall (2017). The plans will identify the coverage and cost of the

network within the state. Once the State Plan is delivered that begins a 90 day period during which a Governor will need to decide if their state will opt-in or opt-out of the plan. If the Governor decides to opt-in then FIRSTNET and AT&T will build out the network in the state as described in the State Plan. If the Governor decides to opt-out then the state will have 180 days to create and deliver to the FCC, for approval, its own plan on how they would build out a network in the state that is interoperable and compatible with the FIRSTNET nationwide RAN and Core Network. The costs of such opt-out activities and build out would be the financial responsibility of the state, although there may be some grant opportunities to assist in these activities.

## PSC Chairman Schram Appointed to NARUC Leadership Position

Nebraska Public Service Commission (PSC) Chairman Commissioner Tim Schram has been appointed as Co-Vice Chairman of the Committee on Telecommunications for the National Association of Regulatory Utility Commissioners (NARUC). He was appointed to the position by NARUC President Robert F. Powelson. Elected to the PSC in 2006, Commissioner Schram was re-elected to a second six-year term representing District 3 in 2012, and currently serves as the Commission Chairman, a position he has held three time since 2006.

**Broadband Nebraska** is produced by the NITC Community Council in partnership with the Nebraska Broadband Initiative. To subscribe go to: <http://nitc.ne.gov/news/community/index.html>

The **Nebraska Information Technology Commission (NITC) Community Council** ([nitc.ne.gov](http://nitc.ne.gov)) promotes the adoption and utilization of broadband technologies in Nebraska and provides recommendations to the NITC.

**Twitter:** @NITCcommunity1

**Facebook:** <https://www.facebook.com/NITCcommunity/>



The **Nebraska Broadband Initiative** ([broadband.nebraska.gov](http://broadband.nebraska.gov)) promotes the adoption and utilization of broadband in Nebraska. Project partners include the Nebraska Public Service Commission, University of Nebraska-Lincoln, Nebraska Information Technology Commission, Nebraska Department of Economic Development, and AIM.

# FirstNet by the Numbers

## VISION

To provide emergency responders with the first high-speed, wireless nationwide public safety broadband network (NPSBN)

## THE LAW

# 2.22.12



FirstNet becomes Law  
PL 112-96

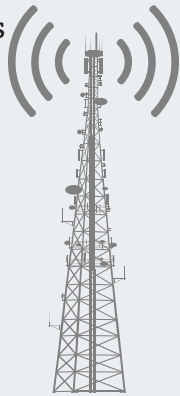
## GOVERNANCE



The FirstNet Board has **15** members, including those with telecommunications and public safety backgrounds.

Each Governor appoints **1** single Point of Contact and governing body to represent the state's interests to FirstNet.

**40** member Public Safety Advisory Committee (PSAC) advises FirstNet on public safety intergovernmental matters.



## FUNDING



# \$7B

authorized to build the FirstNet Network. Funded by spectrum auctions through 2022.

## BAND CLASS (BC) 14

**20MHz** of bandwidth has been dedicated to public safety in the prime upper **700MHz** frequency range.

BC 17		BC 17		BC 17		BC 17		BC 17		BC 17	
BC 12	BC 29	BC 12	BC 13	BC 14	LMR	BC 13	BC 14	LMR	BC 13	BC 14	LMR
COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	PS BROADBAND	PS NARROWBAND	COMMERCIAL	PS BROADBAND	PS NARROWBAND
UL	UPLINK	DOWNLINK	DL	DOWNLINK	DOWNLINK	DOWNLINK	FirstNet		UPLINK	UPLINK	FirstNet
6 MHz	12 MHz	12 MHz	6 MHz	12 MHz	11 MHz	10 MHz	6 MHz	11 MHz	10 MHz	6 MHz	6 MHz

↑ 1 MHz Guard Bands

## WHO WILL USE FIRSTNET

**4-13 Million** potential FirstNet public safety users nationwide



FirstNet's goal is to ensure there is service in all **50** US states, **5** territories, and the District of Columbia.



**First Responder Network Authority**  
For more FirstNet facts visit: [www.firstnet.gov](http://www.firstnet.gov)



Thank you to the State of Oregon for the initial development of this document

(revised September 2015)



# FirstNet by the Numbers

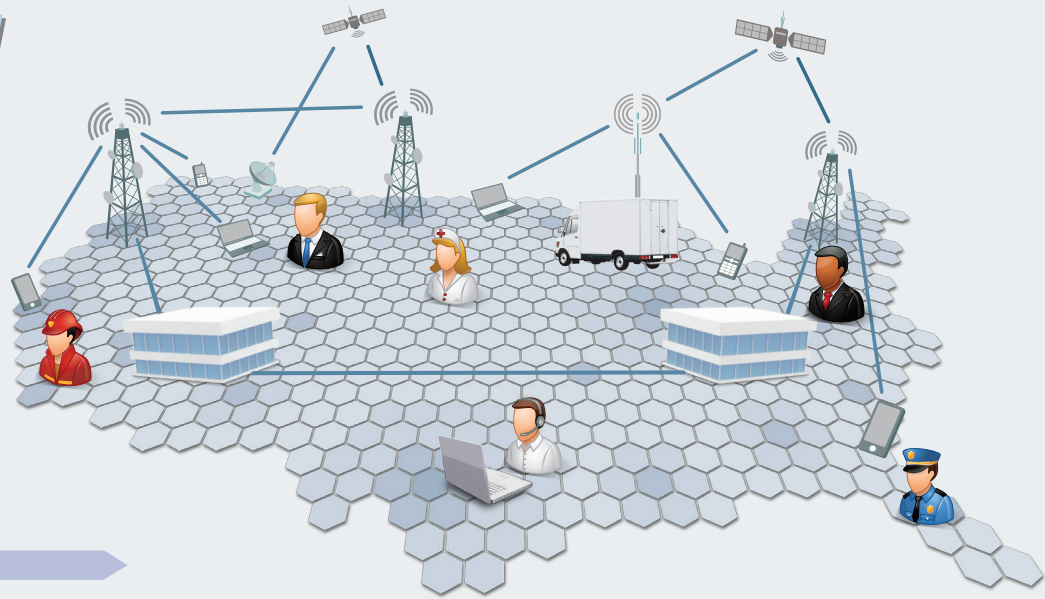
## THE COVERAGE CHALLENGE

Coverage challenge: Providing service to **60,000** public safety agencies, **3,144** counties, and **566** federally recognized tribes in coverage areas including urban and rural



## FIRSTNET NETWORK

To meet this challenge, FirstNet is considering a network architecture using land-based cellular, satellite infrastructure and deployable systems to provide coverage.



**4G LTE** is **10x** faster than 3G wireless service



### 2014-2016

- Strategic Program Roadmap
- Conduct Consultation
- Collect data and design network
- Develop and award comprehensive RFP
- Establish network core

## HOW MUCH WILL IT COST?

To offer services that meet the needs of public safety at a cost that's competitive and compelling to users.

- FirstNet Tenet

## THE ROAD TO THE NPSBN

### 2016+

- Governor reviews design offer and opts in or out of FirstNet network deployment
- Integrate Next Generation 9-1-1

### 2022

Network substantially in operation

SOURCES FOR DATA:  
60,000 public safety agencies (dhs.gov) | 3,144 counties (usgs.gov) | 566 federally recognized tribes (bia.gov)



## First Responder Network Authority

For more FirstNet facts visit: [www.firstnet.gov](http://www.firstnet.gov)



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