

ESUCC  
Executive Committee Meeting  
Tuesday, May 2, 2017, 8:00 AM  
ESU No.10, 76 Plaza Blvd, Kearney, NE 68845

Attendance Taken at 7:52 AM.

Beatty ESU 16:	Absent
Jeff West (NE):	Present
Dr Kraig Lofquist:	Present
Dan Schnoes (NE) (ESU 03):	Present
Dr Larianne Polk (ESU 07):	Absent

1. Call to Order
2. Roll Call
3. ESUCC Timeline
4. Agenda Item
  - 4.1. Innovation Grant
    - 4.1.1. Innovative Grant Timeline
  - 4.2. 5G Verizon (LB 389)
  - 4.3. NWEA and Omaha Archdiocese
  - 4.4. ESUCC/KSB Trainings for 2017-2018
  - 4.5. Buffet Early Childhood Institute
  - 4.6. Executive Director Evaluation
5. Next Meeting Agenda Items
6. Executive Session
7. Adjournment

{{Name: Agenda Item Name}}  
{{Discussion: Agenda Item Discussion}}  
{{Comments: Agenda Item Comments}}  
{{Actions: Agenda Item Actions}}



**ESU Coordinating Council Innovation Grant:  
The Data-Driven Ecosystem Enhancing Teaching And Improving Learning for  
Students (DE2TAILS)**

The Data-Driven Ecosystem Enhancing Teaching And Improving Learning for Students (DE2TAILS) project will enable ESUCC to incorporate multiple on-line educational and data-collection systems into one statewide, secure, single sign-on portal. The goal is to develop, implement, and sustain an integrated ecosystem, governed by policies and practices, to allow relevant teaching and learning applications and tools to integrate; sharing data elements for the improvement of student learning and reporting. Objectives: 1) Develop an integrated technology ecosystem through a secure, trusted data infrastructure (ADVISER) by integrating multiple technology systems through a secure single sign-on portal; 2) Design an integrated system application for the AAP and SRS with ADVISER to address the needs of at-risk and high needs students; 3) Use technology to innovate student learning in the classroom and improve academic/employment outcomes through a BlendED/Personalized Learning Environment; 4) Provide a baseline collection of online digital resources for student access improving college and career readiness through NROC/EdReady; and 5) Develop statewide software (SIMPL) for visualization and rapid analysis of evidenced-based professional development and instructional practice to inform decision making.

Secure hosting infrastructure and software development and enhancements will integrate applications and tools to share data elements. Enhancements will provide data for school districts and ESU's to track the effectiveness of service delivery through continuous quality improvement.

The core of this innovative ecosystem includes quality tools, resources, and data provided to classrooms statewide designed to meet the personalized learning needs of every teacher, every student, every day.

# 5G and Education

## Document Revision History

<b>Authors</b>	<b>Organisation</b>
Esmat Mirzamany	Jisc
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## Introduction

Next generation of mobile technology, 5G, is envisaged to bring a "Networked Society", providing an unlimited access to information and data at anytime, anywhere by anyone and anything. 5G is expected to provide an order of magnitude improvement in the areas of latency, energy efficiency, accuracy of terminal location, reliability and availability, flexibility to accommodate future unseen applications, and creating an impression of "infinite" capacity. As a key enabler for Internet of Things (IoT), 5G will allow the connection of many more devices simultaneously and improve the terminal battery life. Lastly, capability of 5G in transferring human tactile communication over Internet, will be a key enabler for moving from today's content-based wireless communication towards steering and control communication, allowing us to have tactile communication through network. And of course, security and privacy will be cornerstones for 5G, helping its users manage their data, tune their exposure over the Internet and protect their privacy.

5G will be the catalyst for the transformation of the economy and connected society. Our future society and economy will strongly rely on its infrastructure which will cover the network needs and contribute to the digitalization of vertical markets such as education, automotive, banking, city management, utilities, finance, food and agriculture, media, government, healthcare, insurance, manufacturing, real estate, transportation and retail. Future network infrastructure, 5G, will become 'the' infrastructure, one that can be used for all sorts of different services. As the use cases for future 5G are so diverse, each one with different set of requirements and parameters in the network, each use case/business model could occupy its own network slice. The intention of a network slice is to provide only the traffic treatment that is necessary for the use case, and avoid all other unnecessary functionalities. This makes it possible to adopt the technology for each market more rapidly and efficiently. In order to have a clear view about each vertical market and reflect its needs and requirements into 5G specification and architecture, 5G has involved other vertical markets in its requirement gathering. However, it seems one of the most important ones, education, hasn't yet been included. The intention of this document is to highlight the role of 5G in enhancing education, extending our experience of learning and teaching far beyond what we have had over last decades.

Recent developments in mobile access technologies have provided the possibility of having higher availability of the rich digital resources beyond the physical confines of the classroom and in the hands of learners. However, unlimited access to information is only the steppingstone for ubiquitous learning and effective teaching and learning is still required. Advances in mobile technology, IoT and Tactile Internet, can open a new chapter in education. The future learning model will be an international, immediate, virtual, and interactive environment which enables learners to learn and interact in much different ways that we do today. The new model will be learner-centric, skill-centric, on-demand and personalised. It will improve student development in the areas of critical-thinking and collaborative learning. In order to reach this model embracing mobile technology seems indispensable. Applications such as Virtual Reality (VR) and Augmented Reality (AR) will play a big role in quality education and understanding-based learning. By combining Tactile Internet with VR and AR the learning experience will go far beyond today's one, bringing new definition to Tele-teaching, Tele-mentoring, virtual university, virtual classroom, virtual team-working, etc. New mobile technology and connected devices will give students the opportunity to learn with minimal intervention from teachers and mostly through exploration, discovery and peer coaching.

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## Potential education use cases

Some of possible use cases related to Connected Education can be listed as follows:

- **Tactile Internet & Skillset communication:** Having a network capable of transferring our tactile communication through Internet will help us to move from today's content and information delivery Internet to a manual skillset delivery Internet. This will create new ways of Tele-teaching and Tele-mentoring especially for manual training and skill development. The use of Tactile Internet in education can bring new definition and experience for distance learning and distance team-working. In order to have a natural haptic interaction of our limbs with video and audio feedback the response time of service should be very low, i.e., the round trip time of few milliseconds which can be only envisaged by 5G.
- **Virtual Reality & education:** While the initial use case for VR was the entertainment industry, it also has relevance in education and training, and will have a big role in providing quality education and improving understanding-based learning among students. By tailoring these services to education, (e.g. by, having virtual tours of the human body with the possibility of interacting with models and moving the different layers of the body), the learning process can be more fun and much more interesting. This also can bring new experiences for distance learning, enabling the virtual presence of students (e.g., located in suburban area) in the classroom. This type of service needs very high bandwidth (bi-directional) and very low latency (i.e., 2-4ms).
- **Augmented Reality & education:** Similar to the VR, AR has already started to show its relevance and usefulness in education. Providing the necessary information can make contextualised learning ubiquitous and pervasive. AR can be an efficient way of providing the right amount of information at the right time to the right audience. Also, immersive AR can enable new ways of learning and team working in education through services such as mobile cloud classroom and Virtual Presence. Enhancing the learning experience is not the only possible use case for AR. It can also help teachers to get necessary information about each student and be aware of their particular needs and capabilities. The requirements for implementing such services, including optimised routing, seamless wide-area coverage, virtual presence, low delay speech & video coding, need to be considered.
- **Walled-off classroom:** By combining Tactile Internet and VR, the future experience in teaching and learning could go far beyond today's experience. This can remove the physical location constraint for experimental practices, and facilitate and enable the sharing of resources between larger numbers of students irrespective of their current location. The impact would be more significant in hands-on-experience with expensive equipment and facilities.
- **Personalised learning:** Individual access to a mobile device holds the promise to connect each learner into intelligent personalised systems that can suggest learning pathways, enable aggregated analysis and through better data capture of learner experiences enable much better decision making about all aspects of a students' education. Categorising students in different groups and suggesting different multi-media contents can increase the load on the network. However, in-network caching technologies such as Content Centric Networks (CCN) and Information Centric Networks (ICN) can be used to improve efficiency by reducing the service response time and bandwidth consumption.
- **Student wireless backpack:** Today's cloud-based storage services have made it possible to access files irrespective of device of use. Due to the centralised architecture of cloud providers there is a notable delay in access to the content even with a relatively fast internet connection. Future mobile technology will

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enable single device content access anywhere by using distributed cloud and mobile edge computing. All the user needs is a device to access any of his personal content and stored files. Using this feature students can resume their work at a convenient time and place through different devices with an impression of immediate response time.

- **Student with especial needs:** Advances in mobile technology and robotics can open new opportunities to assist students with especial needs, making learning easier for them. Cloud-based robots can be considered as a full-time assistant for disabled students, helping them to interact with the education environment and their peers. Rather than having to call a teacher over for help (which can cost both the student and the teacher time they could be using more productively) the students can take care of the issue with the help of their robot.
- **IoT & Smart Classroom/Smart Campus:** IoT applications are affecting all aspect of our life, from smart building to smart healthcare. However, one of the fast growing area of these applications is in education which can improve our today's teaching, learning and campus operating experience. IoT applications can also help us change the role of teachers in the classroom, reducing the burden of administrative load on them and allowing them to concentrate more on individuals. Being automatically logged into the classroom as soon as entering to the class, being distracted by a signal as soon as losing concentration during lecture, real-time feedback to a lecturer about areas that students still have problem based on the real-time analyses of their notes, all are just few examples of how IoT and connected classroom can enhance learning and teaching experience.

## Technical Requirements for 5G

- **Backhaul Network:** One of the main requirements of 5G is a core network that can relay traffic with the required QoS for a particular service. Internet service for the U.K. education sector is usually provided directly or indirectly through a National Research and Education Network (NREN). NREN is a specialised internet service provider dedicated to supporting the needs of the research and education communities within a country and usually has peering with other mobile operators and service providers. It is usually distinguished by support for a high-speed backbone network, often offering dedicated channels for individual research projects. Different NRENs across Europe are interconnected with each other via GÉANT<sup>1</sup>. Together, GÉANT connects over 50 million users at 10,000 institutions across Europe. Operating at speeds of up to 500Gbps, and offering unrivalled geographical coverage, GÉANT is remaining the most advanced research network in the world. Apart from connectivity, GEANT Associations opens a door for a Pan-European deployment of successful services through other NRENs, enabling collaboration on projects ranging from biological science to earth observation and arts & culture over dedicated infrastructure. The use of Network Slicing in 5G can help to meet the need of different project/services through having totally independent and isolated virtual networks within or between an

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<sup>1</sup> <http://www.geant.org/>

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individual physical infrastructure, making it possible to provide different level of latency, reliability, availability and security for each use case. The work being conducted in 3GPP SA2 and ETSI ISG NFV can be used to meet this requirement. Also, techniques like Information Centric Networks (ICN) and Content Centric Networks (CCN) based Content Retrieval can be used to improve the efficiency of the core network helping them to meet the demand of high bandwidth and low latency requirements of future services.

- **Non-3GPP Access Network:** Most NRENs provide their community with a federation-based Wi-Fi service called **education roaming service** (eduroam<sup>2</sup>). eduroam is a hugely popular worldwide network access service which is implemented on a federated basis. Participating organisations, using their existing infrastructures, connect to national NREN-operated RADIUS systems and overlay eduroam network services, which adhere to comprehensive technical standards. That makes it possible for eduroam-enabled organisations worldwide to provide *seamless* Internet connectivity to their local, as well as roaming users from participant organisations without any need to issue guest-access account. Having started in Europe, eduroam has gained momentum throughout the research and education community and is now available in 76 countries and expanding its coverage not only in education communities but also in public places such as city centres, public transport, etc. Based on the requirements outlined in the 3GPP technical documents, the next generation system architecture must support new RAT(s), the evolved LTE, and non-3GPP access types. As part of non 3GPP access types, WLAN access and Fixed access shall be supported. The consideration of eduroam specification in further discussions in SA2 and NGMN regarding the provision of consistent user experience over 3GPP and non-3GPP access networks is recommended.
- **Cellular coverage in education premises:** Cellular coverage is key for education organisations, because smartphones and tablets tend to be the students platforms of choice, and students working habits are increasingly based on an “anytime, anywhere” approach to connectivity. Unfortunately, the quality of that coverage is not good in most of premises and has until now been outside of the organisation’s control, determined by the operators commercial priorities and roadmap. This leaves many educational organisations poorly served by cellular voice and/or data, either through rural location or through signal strengths that while acceptable in outside spaces are insufficient within the buildings of a campus. Due to the diversity of operators offering services to the students, any solution to this problem should cover at least the top players in the mobile operators market, without degrading the quality of service of any, since there is no mechanism for an educational organisation to enforce uniformity in its students’ choice of platform. The nature of NRENs (having dedicated backhaul and providing high-quality and high-data rate connectivity to the education sector), makes them a good candidate for piloting multi-operator based solutions such as Multi-operator core network (MOCN), i.e., sharing/pooling frequency and using common PLMN-ID and aggregated gateway.
- **Throughput:** Students are mostly categorised as heavy users among service providers. Considering the fact that Audiovisual communications have a huge impact on learning, it is expected that the throughput requirement of most education use cases would be considerably high. 5G promises to offer 20Gbps peak data rate in special scenarios such as indoors and dense areas, as well as several 100Mbps everywhere, as

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being specified in the SA1 work. However, how that translates to actual implementations will always be down to actual demand.

- **Latency:** Real-time interaction with the environment is crucial for education services. However, it is by its definition subjective and the required response time for each application depends on the context of the service. Due to the diversity of use cases in education, the target latency requirement varies significantly between them. While for applications needing tactile interaction through the Internet a latency of 1ms is required, other use cases can leverage their delay-tolerant nature and ease off the 1ms delay requirement significantly. The crucial and challenging part is meeting a round trip time (RTT) of few milliseconds and the discussion about having necessary changes in access and core networks is already underway in 3GPP SA1 and 3GPP RAN.
- **Heterogeneity:** The wired and wireless systems in the education sector are increasingly diverse and experience continuous change with additional mobile devices entering and leaving a single wireless collision domain. There is the need for wireless technologies that can adapt to these changing, heterogeneous environments, making it possible to have an optimised use of all resources without jeopardizing any of the services.
- **Zero-touch configuration:** The education sector, especially schools, often lack enough technical experts. Therefore plug-and-play and self-organising/optimising devices that can sense and learn from their environment and autonomously tune their transmission strategies and achieve the optimal performance can help. This also applies to any service students/teachers would like to use outside the education premises.
- **Asset Management:** With the increase in the number of connected devices on a campus helping to improve operating, learning and teaching experience there is a need for efficient asset tracking and handling with accurate location.

#### About Jisc:

Jisc offers digital services to UK education and research in pursuit of its vision for the UK to be the most digitally advanced education and research nation in the world. Working together across the Higher Education (HE), Further Education (FE), skills sectors and Research Council Establishments, Jisc provides trusted advice and support, and reduces sector costs across shared network, digital content, IT services and procurement negotiations, ensuring the sector stays ahead of the game with research and development for the future. Nationally, Jisc also provides services to many Local Authority education networks, via Regional Broadband Consortia and otherwise, in support of ICT provision in schools and community development learning. Jisc is unique in the perspective and expertise it has within the sector and has earned a reputation as a trusted partner for its community for the way in which it makes commercially pragmatic decisions and provides the practical assistance and know-how that help our customers to evolve and embrace new and better ways of working.

LEGISLATURE OF NEBRASKA  
ONE HUNDRED FIFTH LEGISLATURE  
FIRST SESSION

**LEGISLATIVE BILL 389**

Introduced by Friesen, 34.

Read first time January 13, 2017

Committee: Transportation and Telecommunications

- 1 A BILL FOR AN ACT relating to telecommunications and technology; to adopt
- 2 the Small Wireless Facilities Act; to provide a duty for the Revisor
- 3 of Statutes; and to provide an operative date.
- 4 Be it enacted by the people of the State of Nebraska,

1           Section 1. Sections 1 to 22 of this act shall be known and may be  
2 cited as the Small Wireless Facilities Act.

3           Sec. 2. The Legislature finds and declares that:

4           (1) There is a need for statewide uniformity in the regulation of  
5 the deployment of facilities for providing communications service;

6           (2) Communications facilities are critical to public safety and to  
7 increase access to advanced technology and information;

8           (3) Communications facilities are essential to help businesses and  
9 schools throughout the state remain competitive in the global economy;  
10 and

11           (4) The permitting, construction, modification, maintenance, and  
12 operation of communications facilities are matters of statewide concern  
13 and interest.

14           Sec. 3. The purposes of the Small Wireless Facilities Act are to:

15           (1) Secure public access to advanced wireless technology and  
16 information in an efficient manner;

17           (2) Promote the public benefits from such wireless technology and a  
18 reliable process for deployment of small wireless facilities; and

19           (3) Confirm that communications service providers and communications  
20 facilities providers have a right to occupy and utilize public rights-of-  
21 way on a competitively neutral basis for the efficient conduct of their  
22 business.

23           Sec. 4. For purposes of the Small Wireless Facilities Act, the  
24 definitions in sections 5 to 19 apply.

25           Sec. 5. Applicant means a communications service provider or  
26 communications facilities provider that submits an application to an  
27 authority.

28           Sec. 6. Authority means a state agency or a county, city, village,  
29 public power district, or other political subdivision within the State of  
30 Nebraska.

31           Sec. 7. Authority lands means lands owned by an authority.

1           Sec. 8. Authority right-of-way means a public highway, street, or  
2 alley under the jurisdiction of the authority.

3           Sec. 9. Collocate or collocation means mounting, installation,  
4 maintenance, modification, replacement, or operation of wireless  
5 facilities on or adjacent to a tower, building, pole, or structure for  
6 the purpose of transmitting or receiving radio frequency signals for  
7 communications purposes, but does not include routine maintenance or  
8 replacement of facilities that are substantially similar or smaller in  
9 size, weight, height, and structural loading.

10          Sec. 10. Communications facilities provider means a person or  
11 entity that installs or constructs facilities or structures used to  
12 provide communications service.

13          Sec. 11. Communications facility means any freestanding tower,  
14 monopole, pole, small wireless facility, or similar structure used to  
15 provide wireless service, unlicensed wireless service, or fixed wireless  
16 service, including microwave backhaul, and includes a base station, an  
17 antenna, coaxial cables, fiber optic cables, wires, conduit, pipes, radio  
18 transceivers, microwave devices, power supplies, and all other equipment  
19 used to provide communications service. The term also includes a personal  
20 wireless services facility as defined in 47 U.S.C. 332, as such section  
21 existed on January 1, 2017, and wireless facilities.

22          Sec. 12. Communications service means cable service as defined in  
23 47 U.S.C. 522(6), information service as defined in 47 U.S.C. 153(24),  
24 telecommunications service as defined in 47 U.S.C. 153(53), mobile  
25 service as defined in 47 U.S.C. 153(33), or personal wireless service as  
26 defined in 47 U.S.C. 332, as such sections existed on January 1, 2017.  
27 The term also means wireless service other than mobile service.

28          Sec. 13. Communications service provider means a cable operator as  
29 defined in 47 U.S.C. 522(5), a provider of information service as defined  
30 in 47 U.S.C. 153(24), or a telecommunications carrier as defined in 47  
31 U.S.C. 153(51), as such sections existed on January 1, 2017. The term

1 also means a wireless service provider.

2 Sec. 14. Pole means a utility pole, pole, light pole, light  
3 standard, or structure that is used in whole or in part for  
4 communications service, electric service, lighting, traffic control,  
5 signage, or a similar function.

6 Sec. 15. Small wireless facility means a wireless facility that  
7 meets the following qualifications:

8 (1) Each antenna is located inside an enclosure of no more than six  
9 cubic feet in volume or, in the case of an antenna that has exposed  
10 elements, the antenna and all its exposed elements could fit within an  
11 enclosure of no more than six cubic feet; and

12 (2) All other wireless equipment associated with the structure is  
13 cumulatively no more than twenty-eight cubic feet in volume. The  
14 following types of associated ancillary equipment are not included in the  
15 calculation of equipment volume: Electric meters, concealment material,  
16 telecommunications demarcation boxes, ground-based enclosures, backup  
17 power systems, grounding equipment, power transfer switches, cutoff  
18 switches, and vertical cable runs for connection of power and other  
19 services.

20 Sec. 16. Wireless facility means equipment at a fixed location that  
21 enables wireless communications between user equipment and a  
22 communications network, including, but not limited to: (a) Equipment  
23 associated with wireless service such as private, broadcast, and public  
24 safety services, as well as unlicensed wireless service and fixed  
25 wireless service such as microwave backhaul; and (b) radio transceivers,  
26 antennas, coaxial or fiber optic cables, regular and backup power  
27 supplies, and comparable equipment regardless of technological  
28 configuration. The term includes communications facilities and small  
29 wireless facilities.

30 Sec. 17. Wireless service means a fixed or mobile wireless service  
31 provided using wireless facilities and includes personal wireless service

1 and communications service.

2       Sec. 18. Wireless service provider means a provider of wireless  
3 service including personal wireless service under 47 U.S.C. 332, as such  
4 section existed on January 1, 2017.

5       Sec. 19. Wireless support structure means a structure capable of  
6 supporting the attachment or installation of communications facilities in  
7 compliance with applicable codes, including, but not limited to, water  
8 towers, buildings, and other structures whether within or outside the  
9 authority right-of-way.

10       Sec. 20. (1) Communications service providers and communications  
11 facilities providers may place poles and wireless facilities in an  
12 authority right-of-way.

13       (2)(a) An authority may require an application for a permit to  
14 collocate small wireless facilities on wireless support structures and  
15 poles, including authority poles.

16       (b) An application for the collocation of small wireless facilities  
17 shall be processed on a nondiscriminatory basis and deemed approved if  
18 the authority fails to approve or deny the application within sixty days  
19 after submission of a complete application.

20       (c) Batched applications may be made for projects involving multiple  
21 individual small wireless facilities within the jurisdiction of a single  
22 authority. The authority shall allow the applicant, at the applicant's  
23 discretion, to file a consolidated application and receive a single  
24 permit for multiple individual small wireless facilities instead of  
25 filing separate applications for each individual small wireless facility.  
26 If an applicant applies to construct or collocate several small wireless  
27 facilities within the jurisdiction of a single authority, the authority  
28 shall:

29       (i) Allow the applicant, at the applicant's discretion, to file a  
30 single set of documents that apply to all the applicant's small wireless  
31 facilities; and

1       (ii) Render a decision regarding all the applicant's small wireless  
2 facilities in a single administrative proceeding unless local  
3 requirements call for an elected or appointed body to render such  
4 decision.

5       (d) An authority shall approve an application unless it does not  
6 meet the authority's applicable industry construction standards in the  
7 authority right-of-way or its building, electrical, or pole attachment  
8 codes, standards, or regulations if such codes, standards, or regulations  
9 are of general applicability and do not apply exclusively to wireless  
10 facilities.

11       (e) The authority shall document the basis for a denial, including  
12 the specific code provisions, standards, or regulations on which the  
13 denial was based, and send the documentation to the applicant on or  
14 before the day the authority denies an application. The applicant may  
15 cure the deficiencies identified by the authority and resubmit the  
16 application within thirty days after the denial without paying an  
17 additional application fee. The authority shall approve or deny the  
18 revised application within thirty days.

19       (f) Once an application is approved, a permit authorizing the  
20 collocation or collocations shall remain valid for at least ten years and  
21 shall be approved automatically for at least three five-year periods  
22 unless the applicant requests that the permit be terminated.

23       (g) An authority shall only charge an application fee reasonably  
24 related to the costs directly incurred by the authority in the granting  
25 or administration of permits. Such fee shall be reasonably related in  
26 time to the occurrence of such costs and shall not exceed two hundred  
27 fifty dollars inclusive of any third-party fees, charges, or expenses.  
28 All costs of construction shall be borne by the applicant with no  
29 additional fees, taxes, lease payments, or in-kind consideration paid or  
30 provided to the authority for use of the authority's right-of-way or  
31 land, except that the applicant shall be responsible for any costs to

1 improve or maintain its own small wireless facility. An applicant shall  
2 not be required to pay the occupation tax authorized under section 86-704  
3 for projects undertaken pursuant to the Small Wireless Facilities Act.

4 (h) An applicant may collocate small wireless facilities on  
5 authority poles located within the authority right-of-way without being  
6 required to apply for or enter into any individual license, franchise, or  
7 other agreement with the authority or any other entity subject to such  
8 nondiscriminatory, competitively neutral, and commercially reasonable  
9 terms and conditions as may be set forth in the building permit. Such  
10 terms and conditions shall comply with this section and federal pole  
11 attachment requirements under 47 U.S.C. 224 and implementing regulations,  
12 as such section and regulations existed on January 1, 2017. The annual  
13 recurring rate to collocate a small wireless facility on an authority  
14 pole shall not exceed the rate produced by applying the formula adopted  
15 by the Federal Communications Commission for telecommunications pole  
16 attachments under 47 C.F.R. 1.1409(e)(2), as such regulation existed on  
17 January 1, 2017.

18 (i) For authority poles that support aerial cables used for video  
19 communications or electric service, the applicant shall comply with the  
20 process for make-ready work under 47 U.S.C. 224 and implementing  
21 regulations, as such section and regulations existed on January 1, 2017.  
22 The good faith estimate of the entity owning or controlling the pole for  
23 any make-ready work necessary to enable the pole to support the requested  
24 collocation shall include pole replacement, if necessary.

25 (j) For authority poles that do not support aerial cables used for  
26 video communications or electric service, the authority shall provide a  
27 good faith estimate for any make-ready work necessary to enable the pole  
28 to support the requested collocation, including pole replacement, if  
29 necessary, within sixty days after receipt of a complete application.  
30 Make-ready work, including any pole replacement, shall be completed  
31 within sixty days after written acceptance of the good faith estimate by

1 the applicant.

2 (k) Make-ready work shall not require more work than required to  
3 meet applicable codes or industry standards. Charges for make-ready work,  
4 including any pole replacement, shall not exceed actual costs for the  
5 amount charged to other communications service providers for similar work  
6 and shall not include third-party fees, charges, or expenses.

7 (l) For purposes of this subsection, make-ready work generally  
8 refers to the modification of poles or lines or the installation of guys  
9 and anchors to accommodate additional facilities.

10 (3) For a pole placed or a small wireless facility collocated in  
11 whole or in part under either subsection (1) or (2) of this section, an  
12 authority shall only impose nondiscriminatory, competitively neutral, and  
13 commercially reasonable application requirements and shall not:

14 (a) Require any additional information from applicants that is not  
15 required from other users of authority rights-of-way;

16 (b) Institute a moratorium on the collocation of small wireless  
17 facilities, either directly through a written policy, resolution,  
18 ordinance, rule, or regulation or indirectly through action or inaction  
19 on filing, receiving, or processing applications for small wireless  
20 facilities;

21 (c) Impose discriminatory licensing standards for persons  
22 collocating small wireless facilities but shall receive and process  
23 applications and issue licenses for persons constructing or collocating  
24 small wireless facility applications in a manner substantially comparable  
25 to the licensing of other contractors within the jurisdiction of the  
26 authority; and

27 (d) Require a communications service provider to provide (i) space  
28 on or near the wireless facility for authority services at less than the  
29 market rate for space, (ii) services by use of the structure or  
30 facilities at less than the market rate for such services, or (iii) any  
31 services unrelated to the wireless facility.

1           Sec. 21.     For purposes of zoning regulation, small wireless  
2 facilities shall be a permitted use in all zoning districts other than  
3 areas outside the authority right-of-way that are zoned and used for  
4 single family residential use. An authority shall not impose a specific  
5 or conditional use permit requirement or any similar requirement or  
6 prohibition on small wireless facilities, and the authority shall not  
7 impose more restrictive requirements on placement, height, setbacks, or  
8 spacing than what are of general applicability in the zoning district.

9           Sec. 22.     An authority shall not require a communications service  
10 provider or communications facilities provider to indemnify and hold  
11 harmless the authority from such authority's own negligence, or require a  
12 communications service provider or communications facilities provider to  
13 obtain insurance naming the authority and its officers and employees as  
14 an additional insured party. No communications service provider or  
15 communications facilities provider may avoid responsibility for its own  
16 negligence in installing, repairing, or maintaining poles and wireless  
17 facilities in an authority right-of-way.

18           Sec. 23.     The Revisor of Statutes shall assign sections 1 to 22 of  
19 this act to Chapter 86.

20           Sec. 24.     This act becomes operative on XXX XX, XXXX.



Start early. Start well.

## **NEBRASKA EARLY CHILDHOOD WORKFORCE COMMISSION**

### **Agenda**

**February 15, 2017**

**8 a.m. – 12:00 p.m.**

### **Meeting Goals**

- Build connections among commission members
- Clarify the purpose, roles, and responsibilities of the commission
- Affirm basic outline of blueprint with any recommended revisions
- Establish foundation for year-long process

8:00	Breakfast available
8:15	Announcements – Susan Sarver
8:20	Opening remarks – Marjorie Kostelnik
8:25	Framing of the Day – Bill Fulton
8:55	Commission Goals, Roles, and Responsibilities – Samuel Meisels
9:10	Educating the Public – Marjorie Kostelnik and Renee Wessels
9:30	Developing a Deeper Understanding of the Blueprint – Bill Fulton, Susan Sarver, and Cathey Huddleston-Casas
10:00	Small Group Discussion
10:15	Break
10:30	Overview of the Year – Bill Fulton, Susan Sarver, and Cathey Huddleston-Casas
11:35	Homework Assignment – Bill Fulton and Renee Wessels
11:55	Closing Remarks – Samuel Meisels
12:00	Adjourn

## NEBRASKA EARLY CHILDHOOD WORKFORCE COMMISSION AT A GLANCE

### Summary

The Nebraska Early Childhood Workforce Commission is a collaborative group of 39 public- and private-sector leaders convened by the Buffett Early Childhood Institute at the University of Nebraska to develop a comprehensive plan of action for expanding and strengthening the state's early childhood workforce. The commission will meet quarterly over a three-year period beginning in 2017.

### Why?

- In Nebraska today, nearly 80 percent of children from birth through age 5 are enrolled in some form of paid child care. Decades of research have shown that those who care for and educate these children play the single most important role in their early development and learning.
- There are tremendous challenges to growing and sustaining a high-quality early childhood workforce:
  - Shortage. The Nebraska Department of Education's Teacher Vacancy Survey lists both Early Childhood Education and Early Childhood Special Education as "Teacher Shortage Areas."
  - Preparation. Training and education requirements for early childhood professionals are uneven and often inadequate. For example, each of Nebraska's 20 early childhood degree programs includes at least one practicum experience, but the required supervised classroom hours vary from nine to 150.
  - Compensation. Salaries are so low that many in the workforce leave the profession for other jobs, contributing to high turnover and a lack of stability for young children. In 2015, the average compensation for child care professionals in Nebraska was \$19,620, which is below the poverty line for a family of three.
- These challenges exist across the state in both urban and rural areas. According to the 2016 *Kids Count in Nebraska Report*, 11 counties statewide had no licensed child care facilities in 2015, and roughly 75 percent of counties in Nebraska with child care facilities did not have enough available slots to meet the estimated current demand.

### Goals

- Create consensus on a comprehensive statewide plan to transform and sustain a skilled, informed, and diverse early childhood workforce for all children from birth through Grade 3.
- Develop implementation plans that describe effective strategies, actions, and responsible parties.
- Facilitate and promote collaboration among stakeholders throughout the state and assist with public education and outreach.

### Members

- Co-chairs: Dr. Marjorie J. Kostelnik, dean, College of Education and Human Sciences, University of Nebraska-Lincoln; Dr. Samuel J. Meisels, founding executive director, Buffett Early Childhood Institute.
- Members: Membership is drawn from government, higher education, public schools, child care, philanthropy, health care, and the business community.

## **NEBRASKA EARLY CHILDHOOD WORKFORCE COMMISSION TALKING POINTS**

1. A new statewide commission convened by the Buffett Early Childhood Institute at the University of Nebraska is developing a comprehensive plan of action for expanding and strengthening Nebraska's early childhood workforce.
2. The commission is focusing on the early childhood workforce because the single most important factor in young children's lives are the adults who care for, nurture, and educate them. Decades of research has shown that these experiences have a profound impact on children's long-term school and life success.
3. In Nebraska today, nearly 80 percent of children from birth through age 5 are in some form of paid child care.
4. Tremendous challenges face the early childhood workforce, including a statewide shortage of professionals, training requirements that are uneven and often inadequate, and low wages. In 2015, the average compensation for child care professionals in Nebraska was \$19,620, which is below the poverty line for a family of three.
5. These challenges exist in both urban and rural areas and contribute to high turnover and instability in early childhood programs, directly affecting the quality of care children receive. According to the 2016 *Kids Count in Nebraska Report*, roughly 75 percent of counties in Nebraska with child care facilities did not have enough available slots to meet the estimated current demand.
6. The Nebraska Early Childhood Workforce Commission will address these challenges by developing a comprehensive plan of action. The commission will address the multiple forces that influence these issues, including systems of higher education, early care and education delivery, and policy.
7. The commission will meet quarterly over a three-year period beginning in 2017. In addition to a comprehensive statewide plan, targeted implementation plans will be developed by task forces consisting of commission members and other stakeholders.
8. The commission includes 39 members representing government, higher education, public schools, child care, philanthropy, health care, and the business community.
9. The commission is co-chaired by Marjorie Kostelnik, dean of the College of Education and Human Sciences at the University of Nebraska-Lincoln, and Samuel J. Meisels, founding executive director of the Buffett Early Childhood Institute.