



Utah Governor's Office *of* Economic Development

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Utah Broadband Advisory Council

Tuesday, January 15, 11:00 a.m.

Governor's Office of Economic Development

60 East South Temple, 3rd Floor

Salt Lake City, Utah

Minutes

Welcome & Introductions

Welcome by Rebecca Dilg and introductions of everyone in attendance onsite.

UDOT Yearly update –Lynne Yokum, Fiber Optic Manager

Ms. Yokum explained how UDOT is giving roads a “digital voice” with technology and shared UDOT’s “Top 10 List” of Accomplishments and Goals:

- Travel time will decrease in our urban areas – fiber helps with good current road information
- National leader in the evolution and development of connected autonomous vehicles during the next few years.
- Goal to be first DOT in the country to have real-time full situational awareness of systems and roads to manage traffic automatically by talking to the system. Spending \$500K to get real system awareness.
- Goal: On July 24, 2021 UDOT will see the first CAV (Connected Autonomous Vehicle) drive from SLC to St. George without any driver override.
- Become the first DOT in the country to go completely paperless.
- In 2021, UDOT pavements and bridges with fiber optics will be the envy of the nation. Can fix flex and save a lot of money.
- UDOT’s current culture of trust will lead to a new level of openness including with telecommunication companies.
- Public approval ratings will go from 80 to 90 percent.
- Every employee will be given the best training and education available. Working with fiber providers, county road sheds will be connected and used as rural telecom hub facilities for training. Connecting sheds also provides up-to-date- traffic and server sites for the autonomous vehicles.
- Their goal is to be the safest DOT in the country with less than 200 fatalities per year.
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Ms. Yocum shared several completed fiber projects across the state partnering with many fiber providers. Those providers will be on UDOT’s fiber map.

Utah Education Network Update –Dennis Sampson

Two major projects:

1. Daggett County--STRATA is currently constructing fiber from Vernal to Manilla and Dutch John. Sixty percent of conduit between Manilla and Vernal is complete. It is a 75-mile build with difficult terrain and elevation to get

through; it has taken almost 5 years to get the project underway. They are hoping to get the fiber to the Manilla high school and to the Dutch John Elementary across the dam by 2020.

2. San Juan County phase I from Blanding to Bluff then to Montezuma Creek was recently funded. Brock with Emery Telecom did a great job to get the e-rate funding taking less than 6 months. Emery telecom is working with Navajo and Ute tribes to move the right-of-ways. RPF phase II has been released to run fiber from Bluff to Monument Valley and Navajo Mountain and will close in 2 weeks. Total costs: Phase I \$5 million. E-rate covered 80% of cost. Phase II expected at \$12 - \$15 million.

Legislative Priorities Funding Requests:

- Adding new school broadband connections at 25 – 30 every year. They expect 30 by this coming August.
- School safety—UETN will play instrumental role to develop better technology to provide safety of students.
- Asking \$2.4 million for ongoing funding and \$6.3 million of one-time funding for:
 - Growth and operations. Upgrades, network moved to a 5 x 24 = five days a week serving 24 hours/day serving telehealth connections for rural clinics and hospitals and school connections
 - San Juan Fiber Phase II. \$2.3 million of funding--match needed from state for e-rate application for \$10 million funding.
 - UETN's equipment and backbone; exceeded 80 gig connectivity for schools. Wireless investment in schools for Teaching and Learning program. They created a three year operational plan including dark fiber to their backbone.

Dennis shared the UETN Infrastructure Map. Think may get to 100 gig connections in some core areas of their backbone network across the state.

Utah Futures is a career and college portal which they hope to get ongoing funding.

USDA Broadband Update– Randy Donigan, Rural Development Regional Director

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U of U POWDER Project – Andrew Buffmire, Research Technology Corp Ambassador

Mr. Buffmire is working on business development with the Utah's Platform for Open Wireless Data-driven Experimental Research (POWDER). They received grant from the National Science Foundation to:

- Accelerate and support new US Wireless Research (<https://advancedwireless.org>)
- Establish 4 "City Scale" testbed wireless platforms for research.

It was very competitive. Utah has shown historic wireless testbed and core research capabilities and community support such as letters of support from Utah broadband, UETN, etc. as well as long-term sustainment of platform were big factors in winning.

- Want to maintain and keep it going for five years.
- Teamed with Rice University doing an overlay.
- Open to everybody—expert to novice—to start testing a next generation wireless technology (5gig)
- They are looking for partners.

It can be a catalyst for Utah's technology statewide.

World's First end-to-end Software Defined scale; any device can be tested. 5G: 100 x current wireless data rates, ultra-reliability, dynamic access to network resources (spectrum, compute), low latency, ultimate high speed, real-time connection of everything to everything

Potential Benefits:

- Internet of Things will be realized

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- Edge computing – autonomous vehicles and drones, autonomous package and services delivery, enhanced supply chains
- Virtual Reality and Augmented Reality will be realized
- Public Safety will be enhanced.

They want to take advantage of the POWDER award and great broadband coverage

- Creating a partnership with SLC, an “Olympic City”
- Forward thinking UDOT
- Aggressive drone management program
- Greater access to wireless spectrum
- Creating sustainable pathways

Identified and seeking to develop sustainable pathways:

- Olympics of the future –testbed
- Linux foundation and red hat collaboration
- Autonomous Vehicles and drones testbed
- IoT, I-IoT and IoHT development, testing and deployment
- Technology-based rural economic development
- Research and Education Leadership—U of U and USU partnership
- UETN, UDOT, Rural Telecommunications Leadership, GOED
- Proposed Market Trial/Test approach to design and deploy a working test case, e.g. remote manufacturing

Verizon, Public Safety—Bob DeRosa

Services are live and ready to go. Two-thirds of wireless users use Verizon; they have been leveraging and building relationships in the wireless perspective for public safety.

- Invested \$ 126 billion since 2000. Connectivity is important, but Mr. Derosa said reliability in times of crisis is more so. They will continue to invest \$8-10 billion each year.
- 4G LTE is their foundation. They cover 323 million people; more than 98% of the US population and over 2.58 million square miles, and number one overall network in the US ten times in a row according to RootMetrics.

They independently invested in public safety. They launched a public/private safety core; invested in preemption, mobile broadband priority, and wireless priority service; launched LTE deployable network; Mission-critical push-to-talk features to help support public safety technology are coming; portfolio includes Applications, and Situational Awareness

Most popular services are:

- Wireless Priority Service (Voice – smartphones- Priority and Preemption
- MBP Mobile Broadband Priority – Uniquely identify each unit with a priority
- Data Devices (Jetpacks, routers, laptops, tablets, IoT, etc.

Deployed assets at basecamps and commercialized a mobile connectivity trailer. Additional services include emergency management teams using their mobile technology carried also in backpacks, suitcases, boxes, etc.

Have 23 crisis Management teams. Verizon responds in crises. Hundreds of employees provided thousands of hours for hurricane recovery. Verizon Crisis Response Team with deployable devices and network assets to first responders.

In Utah started a program with first responders that are not agency paid, (e.g. volunteer firefighters) to ensure their personal devices are connected with priority services. Launched Wireless Priority Service (WPS) and Mobile Broadband Priority (MBP) features at \$0 cost.

AT&T, FirstNet—Tara Thue, Government & Community Affairs & Shae Cook, FirstNet Program Consultant

AT&T was awarded the nationwide RFP FirstNet contract. Shae Cook shared examples of false and real emergencies including the Hawaiian Island debacle for 37 minutes. Had they been on the FirstNet, the event would not have occurred. When the 7.0 earthquake in Alaska hit, the National Guard and emergency management all had FirstNet and were able to prioritize communication. FirstNet creation stemmed from 911.

FirstNet has been in Utah since November 6, 2017 when Governor Herbert opted in. AT&T was responsible to build and maintain the federally authorized platform. Over 70 agencies in Utah have now subscribed with more than 5,767 connections; nationally there are over 5250 agencies and over 425,000 subscribers nationally. Participants include Primary and Extended:

- Primary—Fire, Law Enforcement EMS, PSAP/ Emergency Management
- Extended Primary—Healthcare, Utilities, Transportation, and others are provided priority at the same cost to be on FirstNet core platform.

The Utah AT&T Network is getting 700 mghz of spectrum and buildout across the state of Utah to meet the needs of rural and tribal lands. Cook said the priority is an LTE solution, so most of the state can have that coverage. Buildout is going well, hardening sites, redundancy, in building systems (DAS) with over 6000 DAS systems throughout the country.

AT&T has FirstNet first priority. Voices, data, messaging are all prioritized with a sim card—no code required, ready to go 24/7/365. Band 14 is being deployed and will have priority driven by the sim card—for FirstNet only. They are developing band 14 throughout the state with the majority in Salt Lake County. Buildout must be done by 2022. First responders will have their own dedicated platform physically separate from a commercial network. This required them to build a separate dedicated core--hardened and geographically placed for redundancy.

Emergency services:

- Dedicated deployables nationwide: Band 14 satellite cell on light trucks and AT&T deployable tethered drones or cell sites on fan boats during floods all for planned and unplanned events.
- Emergency drop kit. 14 hour battery – in white zones where there is no coverage.

FirstNet has oversight to ensure AT&T delivers and advocates for public safety.

Utah Communities Connect, Digital Equity—Shauna Edson

Utah Communities Connect is a new alliance with Shauna Edson leading from the Salt Lake City public library. Libraries across the country are working to address the digital equity work. Goal is to bring awareness and action for access, education, and devices to digital connectivity as access does not equal digital equity.

Three main goals of UCC:

- Create digital inclusion network for individuals and organizations that allows for cross-sector collaboration and coordination of resources and information; starting in Salt Lake City, the county joined and is spreading to all of rural Utah.

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- Determine digital equity for Utah
- Become a voice and bring awareness to community members and stake holders that could become digital inclusion advocates and change makers.

Their goal is to hold quarterly events. Their first was in October where Mayor Buskuspi unveiled their digital inclusion policy. Tomorrow is the next event where they are partnering with Salt Lake City to work on community engagement around the city's digital equity policy. It is an open and collaborative alliance with many providers and community stakeholders.

Answering as a group:

- Access; what does it mean to have access according to their needs. With true digital access they can support themselves and guide their technology usage from basic computer navigation skills to workforce.
- Digital Literacy; a personal experience with different digital needs, from education, to personal , to workforce needs.
- Leadership; how to coordinate leaders and resources.

All are welcome to come and participate.

ADJOURN

Next Meeting—April 16, 2019, 11:00 a.m.