

# Oregon Broadband Advisory Council Meeting **Draft**

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August 27, 2020

Virtual Meeting

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## **Attendance**

**Members Present:** Kurtis Danka, Joseph Franell, Michael Heffner, Wade Holmes, Lonny Macy, Representative Pam Marsh, Galen McGill, Rick Petersen, Jeremy Pietzold, Cheri Rhinhart, Senator Arnie Roblan, Dave Sabala, Commissioner Mark Thompson, and Commissioner David Yamamoto.

**Staff Present:** Christopher Tamarin, Business Oregon

### **Guests:**

Evyan Andries, OCHIN; Pam Berrian, City of Eugene; Denis Condon; Steve Corbató, Link Oregon; Dave Davis, The GEO; Jessica Epley, Zply Fiber; Cynthia Gaffney, Digital Literacy and Broadband Access; Lori Gleichman, Jefferson County and the Bean Foundation; Alexandra Corvello, Lane County; Amy Fenerty, Aldrich CPAs; Bob Fletcher, Verizon; Scott France; Rebecca Gibbons, City of Portland; Jenna Jones, League of Oregon Cities; Montana Lewellen, Oregon Cable Telecommunications Association; K. Tate; Commissioner Lianne Thompson, Clatsop County; Jacob Vandever, the House Republican Office; Rachel Wenten-Chaney, High Desert ESD; Paul Zollner, Business Oregon.

The meeting was called to order at 9:17 am.

## **Welcome, Introductions**

Chair Joe Franell called the meeting to order and asked for guest introductions.

## **Minutes**

Dave Sabala moved that the July 23, 2020, minutes be approved as distributed. Jeremy Pietzold seconded the motion. The council approved the motion.

## **National Broadband Activity Updates**

Chris Tamarin reported on the following national broadband activity regarding infrastructure deployment, technology, market trends, public policy, and illustrations of the value of broadband adoption and utilization since the council's last meeting.

### **Satellite Broadband**

[The FCC Approved Amazon's \\$10B Plan](#) for satellite internet service. Amazon will move forward with Project Kuiper, a \$10 billion satellite Internet project which will utilize more than 3,000 satellites to bring high-speed Internet to people who live in remote places around the world. Amazon also said that Kuiper will provide not only "high-speed, low-latency broadband service" to individuals but also "backhaul solutions for wireless carriers that will extend LTE and 5G service to new regions. Amazon's project has a high-profile competitor in Starlink, the satellite Internet

project from Elon Musk's aerospace company SpaceX. SpaceX [claims](#) that roughly 700,000 U.S. citizens have expressed interest in its upcoming broadband service, which, similar to Kuiper, will also cost around \$10 billion to put in place. Starlink is in pre-beta test and is showing speeds as high as 60 Mbps downstream and 17.7 Mbps upstream. Latency was as low as 31 milliseconds. Speeds ranged from 36 Mbps to 60 Mbps on the download and 5 Mbps to 17.7 Mbps on the upload. BroadbandNow [notes](#) that HughesNet and Viasat are currently the two most prominent satellite Internet providers in the country with geostationary satellite systems.

## **Wireless**

### **T-Mobile**

T-Mobile announced this month that it has launched standalone 5G service nationwide increasing the T-Mobile 5G footprint by 30%, according to the company. Although T-Mobile already claimed a nationwide 5G launch, the service initially relied on an LTE core network, sharing that network with previous-generation services. Standalone 5G uses a dedicated 5G core network. T-Mobile deployed 5G primarily using low-band 600 MHz spectrum, but the company's LTE service uses mid-band spectrum. Lower-band spectrum provides greater range than mid-band spectrum, and as T-Mobile explained in a press release, "without SA [stand-alone] the 5G signal only goes as far as mid-band LTE." With this launch, the company said, "600 MHz 5G can go beyond the mid-band signal, covering hundreds of square miles from a single tower and going deeper into buildings than before." With this launch, T-Mobile now covers 1.3 million square miles in more than 7,500 cities and towns across the country. Standalone 5G is also designed to decrease latency, and according to T-Mobile, the company has seen an improvement of up to 40% in latency during testing in areas where standalone 5G had already been implemented. T-Mobile has pledged to make fixed wireless service available to 90% of the U.S. population within six years at speeds of at least 100 Mbps. <https://www.telecompetitor.com/t-mobile-5g-footprint-grows-30-with-nationwide-standalone-5g-launch/>

### **Verizon**

A new Verizon rural broadband strategy was recently unveiled by Verizon. The carrier announced an initial launch of 3 markets for LTE Home Internet, with more to come. The carrier is presenting the service as a way to deliver needed internet speeds to rural areas, especially for work-from-home and school-from-home needs in the face of COVID-19. Verizon's LTE Home Internet will offer a fixed wireless service using the company's 4G LTE network. Priced at \$60/month (discounted to \$40/month for Verizon Mobile Wireless customers), the service will offer average download speeds of 25 Mbps, with peak speeds of up to 50 Mbps. Verizon said, "Verizon's 4G LTE network currently covers over 98% of the population. We are one year into the rollout of 5G, and it's going to be a years-long effort to fully deploy 5G technology, just as the deployments of 4G LTE and 3G were. We will continue our aggressive rollout of 5G, however we wanted to provide a product that will benefit our rural customers now. With more and more people working from home and engaging in distance learning, we wanted to make this resource available now. With LTE Home Internet, Verizon's 4G LTE network will provide Internet connectivity for customers in more rural parts of America who may not have access to broadband Internet service. For its 5G Home product, Verizon is using the same network it uses to offer 5G mobility services on mmWave spectrum. The mobile 5G service is available in more than 35 markets and the company expects to offer it in more than

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60 markets by the end of the year. The 5G Fixed Wireless service is available in only a handful of markets, and plans call for offering it in 10 markets by year's end.

Fixed wireless via LTE is gaining significant momentum. A key advantage is the ability to offer the service through simple CPE in the home, generally without the need for installing an outdoor antenna. LTE technology with licensed spectrum also generally provides better fixed wireless performance than more widely used unlicensed spectrum that fixed wireless providers have been using for years. And LTE's current global scale footprint brings good economies of scale for LTE equipment pricing. This momentum is expected to increase with the expansion of CBRS spectrum, with the licensed portion of that band currently being auctioned by the FCC.

### **AT&T**

AT&T's rural fixed wireless service is geared towards fulfilling its Connect America Fund obligations and [offers](#) a lower-performing service, averaging 10/1 Mbps service, peaking at 25 Mbps. AT&T's fixed wireless also has a 250 GB monthly data allowance. AT&T announced that it has launched mobile 5G nationwide – and that it will make 5G capability available at no extra charge to customers purchasing unlimited plans. Of course, 5G connectivity is of no use without a 5G device. AT&T 5G device options include: several Samsung Galaxy phones and several LG phones <https://www.telecompetitor.com/verizon-rural-broadband-strategy-will-rely-on-lte-home-internet-fixed-wireless/>

### **Fixed Wireless**

Counterpoint Research predicts 60 million users for both 4G and 5G FWA by the end of 2020, with 10 million of those being 5G FWA users. Counterpoint also predicts the number of FWA users to grow from 60 million to 200 million by 2025.

<https://www.fiercewireless.com/wireless/fwa-projected-to-grow-dramatically-but-it-still-has-problems>

### **Also on the wireless front...**

The Citizens Broadband Radio Service (CBRS) spectrum auction has closed, raising \$4.585 billion. The auctioned spectrum lies between 3550 and 3650 MHz, making it mid-band spectrum, which some see supporting the optimum blend of speed and coverage for 5G. The CBRS auction drew a wide range of bidders, including all three major nationwide mobile wireless carriers, along with smaller mobile carriers, fixed wireless providers, cable companies and wireline providers planning to deploy fixed wireless.

<https://www.fcc.gov/document/fcc-concludes-first-5g-mid-band-spectrum-auction>

### **Cable Companies**

#### **Comcast**

Comcast reported 2Q 2020 results last week, calling it its best 2Q broadband performance in 13 years. Comcast added 323K broadband customers in 2Q20. According to David Watson, CEO of Comcast Cable, Comcast only has about 50% penetration for broadband, suggesting they have a lot of runway for additional growth. The existing DSL base for all large telephone companies, a prime

target for Comcast (and all DOCSIS-based cable competitors) to take, is still relatively large. Verizon and AT&T alone have over 10M DSL (including FTTN) customers. Comcast is also turning its attention to streaming video. This strategy began with the introduction of Xfinity Flex, Comcast's streaming video player. Flex features a variety of streaming services, including the Sling streaming TV platform from Dish. Back in May, Comcast announced Flex had surpassed one million subscribers. Streaming platforms are also available through Comcast's flagship pay-tv interface, X1.

The next major installment in the streaming strategy is Peacock, Comcast's streaming TV service to rival Disney+, HBO Max, Netflix and others. It offers both free ad-supported and premium subscription models, featuring content from NBC Universal's vast content library, but also includes content from Viacom CBS. Comcast announced 10 million sign-ups for Peacock on its 2Q 2020 earnings call. Comcast also owns 1/3 of Hulu.

<https://www.telecompetitor.com/with-broadband-domination-almost-complete-comcast-now-turns-attention-to-streaming/>

### **Charter Communications**

Charter Communications surpassed the mark of 30 million customers during the first half of this year. With its new record number of subscribers, Charter became the nation's fastest growing internet, voice, TV, and mobile provider.

### **TDS**

TDS, despite the trend toward streaming increased their number of video subscribers. The company reported its video subscriber base increased by 9% in 2Q20 and also saw growth in its broadband subscribers.

### **Cable Industry**

The largest cable and telephone providers in the U.S. represent more than 95 percent of the total broadband market, however, market growth is largely enjoyed by the cable companies, while phone companies as a group are losing subscribers.

The top broadband providers have about 103.3 million subscribers, cable companies: 70.6 million subscribers of and the wireline phone companies: 32.7 million subscribers

- The top cable companies added about 1.4 million subscribers in the quarter, compared to a net gain of about 530,000 subscribers in the same period last year
- Cable broadband net additions were the most in any quarter since the first quarter of 2007. Charter's 850,000 net adds in the second quarter of 2020 were more than for any provider in any previous quarter.
- The top wireline phone companies had a net loss of about 155,000 subscribers in the quarter, compared to a net loss of about 160,000 subscribers in the same year ago period.
- The smaller telephone companies were the ones that saw broadband gains. While AT&T, Verizon, CenturyLink and Frontier lost subscribers, Windstream, Consolidated, TDS, and Cincinnati Bell had subscriber gains.

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“With the continued impact of the coronavirus pandemic, there were more quarterly net broadband additions in 2Q 2020 than in any quarter in eight years,” said Bruce Leichtman, president and principal analyst for Leichtman Research Group, Inc., in a prepared statement. “In the first half of 2020, there were over 2.4 million net broadband additions. This is the most net adds in the first half of any year since 2008.”

<https://finleyusa.com/broadband-growth-due-to-pandemic/>

### COVID-19 Impacts

The COVID-19 pandemic continues to impact broadband usage, according to OpenVault Broadband Insights (OVBI). The report found that during COVID-19 upstream internet traffic rose 5.3% between the ends of the first and second quarters. Upstream consumption is up 56% year over year for the second quarter of 2020. The report found customer demand for faster tiers. The OVBI found that almost 5% of subscribers have gigabit or faster connections, a 133% year over year increase – and an increase of 75% during the past six months. Sixty-one percent of subscribers have connections of 100 Mbps or faster, an increase of 27% over the past year. The changes were driven by consumer need to use broadband across multiple devices simultaneously. Some operators offered complimentary speed upgrades and relaxed data ceilings to meet this demand.

Key findings of the study:

- The total average usage declined from 402 GB in 1Q20 to 380 GB in 2Q20, but remains well above pre-pandemic levels and is up nearly 36% from the average of 280 GB at the end of the second quarter of 2019.
- The 8.7% of subscribers consuming 1 TB represented a 112% increase from 4.1% in the second quarter of 2019.
- With usage quotas relaxed during the pandemic, consumption by subscribers on usage-based billing (UBB) plans increased nearly 42% year-over-year, from 262.9 GB in 2Q19 to 372.8 GB in 2Q20. Average usage in Europe was 221.6 GB, down 10% from the 247.7 GB of 1Q20 but up 30% from the 170.2 GB in 2Q19.

Through its OVBI report, OpenVault has been tracking the impact of the pandemic. In May, the firm [found](#) that average bandwidth consumption at the end of the first quarter was 402.5 GB, an increase of 47% compared to the first quarter 2019’s average, which was 273.5 GB.

<https://www.telecompetitor.com/openvault-covid-19-is-driving-dramatic-upstream-internet-traffic-growth/>

### Video streaming

Video streaming now accounts for 25% of Television Viewing. The average weekly streaming minutes for the second quarter of 2020 was 142.5 billion, around a 75% increase from 2019’s average of 81.7 billion minutes a week. Netflix was the most popular streaming option, making up 34% of all streaming for the quarter. YouTube (the traditional site, not the live TV service) was second at 20% with Hulu accounting for 11% and Amazon taking 8%. Despite being relatively new on the scene compared to the others, Disney+ rounded out the top five with 4% of the total streaming minutes – likely due to a large number of kids home from school. While every age bracket saw streaming

growth in Q2 of 2020, the 55 and older group saw the biggest gains year-over-year. Making up just 19% of total streaming minutes in 2019, those age 55 and up now accounts for 26% of all minutes streamed. The average number of streaming services used is on the rise too, with 25% of adults adding a new service in the past three months. Compared to 2019 numbers, the percent of homes with an on-demand streaming video subscription rose from 70% to 74%.

<https://www.cordcuttersnews.com/streaming-now-accounts-for-25-of-television-viewing/>

### **Videoconferencing**

Pre-COVID, video streaming was the top use of broadband, followed by email, web browsing, gaming and music streaming. However, new habits and needs have caused it to fall behind video conferencing for virtual meetings/webinars and distance learning.

<https://www.tvtechnology.com/news/broadband-study-hd-streaming-takes-a-backseat-to-zoom>

### **E-Commerce**

According to new data from IBM's U.S. Retail Index, the pandemic has accelerated the shift away from physical stores to digital shopping by roughly five years. Department stores, as a result, are seeing significant declines. In the first quarter of 2020, department store sales and those from other "non-essential" retailers declined by 25%. This grew to a 75% decline in the second quarter. The report indicates that department stores are expected to decline by over 60% for the full year. Meanwhile, e-commerce is projected to grow by nearly 20% in 2020. The report suggests that department store retailers will need to more quickly pivot to omni-channel fulfillment capabilities in order to remain competitive in the new environment. Specifically, they will need to drive traffic to their stores through services like buy online and pickup in store (BOPIS), and will need to offer an expanded set of ship-from-store services.

Large retailers like Walmart and Target have embraced Omni-channel fulfillment to their advantage. Both reported stellar earnings this month thanks to their earlier investments in e-commerce. In Walmart's case, the pandemic helped drive e-commerce sales up 97% in its last quarter. Target set a sales record as its same-day fulfillment services grew 273% in the quarter. Both retailers have also invested in online grocery, with Walmart today offering grocery pickup and delivery services, the latter through partners. Target has also just now rolled out grocery pickup and runs delivery through Shipt, a delivery application.

Amazon, naturally, has also benefited from the shift to digital with its recent record quarterly profit and 40% sales growth.

The shift away from physical stores was already underway, but we've now jumped ahead in time as to where we would be if a health crisis had not occurred. This is a similar trend to what other industries have seen as well, including things like streaming/cord cutting, gaming and social video apps and more as the internet continues to change how we live and work.

<https://techcrunch.com/2020/08/24/covid-19-pandemic-accelerated-shift-to-e-commerce-by-5-years-new-report-says/>

## **Cybersecurity**

Malware attacks continue in the face of the pandemic. Just under 270 million malware attacks were identified during the first quarter of the year, according to research from Atlas VPN. The most common of the identified attacks were “infectors,” which are viruses that attach themselves to executable software that spreads to other programs and/or networks. This approach was used in 28.78 million attacks. That was followed by worms (25.31 million), adware (19.4 million), exploits (17.65 million), cryptojacking (4.89 million) and ransomware (850,000). Perhaps most significantly, however, is that the unspecified/other category was dominant, with 173.09 million—64.11%—of the total. COVID-19 has greatly impacted the way in which people work. That had an impact on security at least at the end of the quarter—and is set to grow. “It is safe to assume that threat actors became more active in the first quarter of 2020 due to the COVID-19 pandemic,” Atlas VPN COO Rachel Welch said in [the report](#). “Many people started working from home, which created opportunities for hackers to infect unsecured networks. We can expect similar or even higher numbers in the second quarter of 2020.”

<https://cdgportal.com/blog/index.php/2020/07/22/malware-attacks-not-slowng-down-270-million-attacks-in-1q-2020-alone/>

## **Internet of Things (IoT)**

Verizon Business has launched *ThingSpace IoT Marketplace*. The marketplace enables quick purchase, activation and management of IoT devices. Customers can be guided in choosing the right device, selecting connectivity options and bundling what they select with services. These services can include device management, security, location, advanced diagnostics and firmware updates. The process, which Verizon says can be done in minutes, is to select a SIM card, pair it with the desired price plan, pay by credit card and access Application Programming Interfaces to manage connections. Verizon announced that it is working with Microsoft and IBM on 5G, edge computing and IoT applications.

<https://www.telecompetitor.com/verizon-business-launches-thingspace-iot-marketplace/>

## **State of Wyoming**

This month the Wyoming Business Council Board of Directors approved 37 projects totaling \$86 million in federal CARES Act funding to expand broadband infrastructure throughout the state. In response to COVID-19, the Governor worked with state legislators to develop the broadband expansion initiative to provide internet access in areas where there is little or no broadband so Wyomingites can access telehealth, tele-education and telework. An equivalent level of funding in Oregon per capita would be \$591 million.

[https://www.kulr8.com/coronavirus/wyoming-to-use-federal-cares-act-funding-to-expand-broadband-infrastructure/article\\_19038e4a-de95-11ea-a649-fbd3f5447cfa.html](https://www.kulr8.com/coronavirus/wyoming-to-use-federal-cares-act-funding-to-expand-broadband-infrastructure/article_19038e4a-de95-11ea-a649-fbd3f5447cfa.html)

## State Broadband Activity Updates

Chris Tamarin reported the following state broadband activity regarding infrastructure deployment, technology, market trends, public policy, and illustrations of the value of broadband adoption and utilization since the council's last meeting.

### Oregon Department of Education–Comprehensive Distance Learning Grant Program

In March 2020, Governor Brown declared a state of emergency due to the public health threat posed by the novel coronavirus ("COVID-19"). Governor Brown followed the declaration with the suspension of in-person instructional activities in all of Oregon public and private schools starting March 16, 2020 until the remainder of the 2019-2020 school year. Despite the suspension of in-person activities, every school continued to guarantee equitable access to learning.

- Governor's Emergency Education Relief Fund (GEER Fund) and the
- Elementary and Secondary School Emergency Relief Fund (ESSER Fund)
- Coronavirus Relief Fund

As a result of ongoing needs to resume the 2020-21 school year with Distance Learning, ODE created the \$28.1 million Comprehensive Distance Learning Grant Program

(1) Access and Connectivity: Adequate infrastructure and/or services that enable internet access and connectivity for student learning. Examples include Purchasing hotspots or routers for buses or external locations.

(2) Student and Teacher Devices: Appropriate and user friendly devices for students and educators to navigate through distance learning curriculums and programs of study. Examples include the purchase and distribution of laptops, iPads, and Chromebooks for use by students.

(3) Digital Content and Curriculum: High quality, adaptable, culturally responsive, and effective digital learning curriculums and content that fosters student learning and engagement. Examples include the purchase of digital content that will form less than half of the content for a course and that is aligned to grade level content standards in terms of depth and breadth.

(4) Learning Management Systems: Online technology that allows educators to successfully deliver their teaching content and lessons. Examples include the purchase of a Learning Management System or add-ons to a Learning Management System that support online instruction.

(5) Professional Learning for Educators: Various supports and training that ensure effective use of all digital learning tools. Examples include registration fees, substitute reimbursement, and special time or extra-duty pay for professional learning specific to standards based online or distance learning professional development Additional examples for each category listed.



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For more information on the CDL grant program, please review the application. Or, you can contact [ODE.CDL@ode.state.or.us](mailto:ODE.CDL@ode.state.or.us) and/or [Michael Wiltfong](#) for assistance with CDL grant administration. [Carla Wade](#) will be the technical advisor on this grant and can also provide guidance and help with grant questions.

<https://www.oregon.gov/ode/schools-and-districts/grants/Documents/CDL%20Grant%20Program%20FAQs%208.21.20.pdf>

### **Telework**

The Oregon Office of Economic Analysis published a paper entitled [“Working from Home and Broadband Access in Oregon.”](#) Josh Lehner, a state economist who authored the report believes that increased telework presents a “long-term growth opportunity” for states in the west that rely on in-migration for labor and consumer spending. Lehner said that survey data has shown a massive spike in remote work in 2020, “thought the vast majority of those workers are likely going to back to the office whenever it’s safe to do so.” Lehner’s cautious perspective seems to be in line with a recent analysis of the pandemic’s impact on vehicle miles traveled. According to StreetLight Data, vehicle miles traveled across the U.S. “is almost back to where it was in March,” particularly in rural areas. One potential implication of higher VMT is that telework may not remain as prevalent as it was during the start of the health crisis.

Others have a different point of view. Randy Cox, executive director of Klamath County Economic Development Association (KCEDA) in Oregon, said the increased traffic he’s seen in Klamath County has been associated with more visitors and tourists. Cox pointed out that KCEDA tends to work with employers, and what he’s hearing is that remote work has been efficient and effective. “They’re finding that they’re getting more from the workers at home,” he said. Cox also sees the shift to telework as something that was in the cards anyway. COVID-19 simply accelerated the change.

Others have expressed optimism that U.S. society as a whole could benefit significantly from the new trend in telework. Articles from the Brookings Institution have suggested that remote work is likely here to stay and could move “America’s highest-value employment away from large ‘superstar’ metro areas and into the lower-priced American heartland”.

Reports from CNN and U.S. News & World Report indicate that citizens in urban areas are becoming more attracted to the idea of moving to a rural area due to a perceived higher risk of threat to COVID-19 in big cities. A key issue is broadband availability in rural areas, Lehner said. Even in Oregon, where Internet subscription rates tend to be higher than the national average, rural broadband quality may not be where it needs to be for widespread telework. In other words, smaller local areas that may see telework as a potential economic boost must still contend with poor broadband infrastructure.

<https://www.govtech.com/network/Will-Telework-Provide-Economic-Boosts-to-Smaller-Local-Areas.html>

### **Hunter Communications Recognized**

Hunter Communications, a telecom services provider in southern Oregon and northern California, was recognized by BroadbandNow with multiple 2020 Internet Service Provider Awards.

[BroadbandNow](#), an organization that tracks and analyzes broadband speeds and overall customer satisfaction, annually recognizes excellence among internet service providers. Hunter won four awards

- #1 Fastest Business Internet in Oregon
- #1 Fastest Business Fiber Service in Oregon
- Top 10 Fastest Business Internet Nationwide
- Top 10 Fastest Business Fiber Service Nationwide

Hunter Communications provides fiber optic broadband internet, data and voice services to customers in 2,500 fiber-lit commercial buildings over its 2,000+ mile fiber network.

<https://www.businesswire.com/news/home/20200826005470/en/Hunter-Communications-Named-Oregon%E2%80%99s-Fastest-Business-Internet>

### **League of Oregon Cities**

The League of Oregon Cities, in coordination with many cities, as well as representatives from Verizon, AT&T, and T-Mobile, met and worked diligently from January 2019 to May 2020 to discuss and craft a model code, model design standards, and an informational document relating to small cell wireless facilities and this month published a reference entitled, "Frequently Asked Questions on Small Wireless Facilities, to provide an overview of small cell technology, deployment, and infrastructure. The intended audience of this document is city staff, planning commissioners, elected officials and community members.

## **Presentations**

### **Zipty Fiber—Oregon**

Regulatory & External Affairs Director Jessica Epley provided a briefing on the first 118 days of Zipty Fiber's operations in Oregon. Zipty took over Frontier Communications' local exchange business in Oregon on May 1<sup>st</sup> and shortly thereafter on May 15 announced fiber infrastructure deployments in Coos Bay/Empire, Coquille, La Grande and North Bend by the end of the year. It also received a grant offer for a fiber build in the Santiam Pass – Detroit to Idanha. The next phase of fiber deployment will be in 2021. Clatskanie, Vernonia, Banks, Joseph, and Enterprise are being evaluated as construction project priorities. Zipty is also expanding network capacity to reduce congestion ensure performance even during peak hours. Its preferred transmission medium is optic fiber.

Zipty is expanding operations and its organization in Oregon and is seeking local partnership opportunities with local communities and local contractors to improve its network infrastructure, its customer experience and its employee experience. Zipty wants to go to where people want them, first. Zipty is dedicated to bringing fiber to more than one million Northwest homes and

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businesses, many of which have been underserved for decades. Zply is committed to providing symmetrical Gigabit internet access service to 85% of its customers within five years <https://get.zplyfiber.com/>.

Several people on the call reported positive experiences with Zply Fiber since the take-over.

### **Cybersecurity**

Dr. Rakesh Bobba of Oregon State University and Charlie Kawasaki of Pacstar, both members of the Oregon Cybersecurity Advisory Council provided a briefing on current cybersecurity issues in Oregon. Cybersecurity is a key issue for the state.

Oregon companies face critical shortages of trained cybersecurity talent. Nationally, there are over 500,000 unfilled cybersecurity positions for security engineers, analysts, network engineers, and software engineers. In Oregon there are 4,595 unfilled positions and an employed cybersecurity workforce of 8,958 <http://cyberseek.org/heatmap.html>.

Cybersecurity threats show little sign of abating. 355 Oregon companies have reported breaches since January 1, 2016. Oregon law requires a business or state agency to notify any Oregon consumer whose personal information, as defined, was subject to a breach of security. A breach of security is the unauthorized acquisition of computerized data that materially compromises the security, confidentiality or integrity of personal information that an entity maintains.

<https://justice.oregon.gov/consumer/DataBreach>

The Oregon Cybersecurity Advisory Council (OCAC) was established through Senate Bill 90, September 19th 2017. OCAC has nine voting members representing different stakeholders advising the State CIO. The majority from cyber industry plus representatives from higher-education and law enforcement. The Council serves as the statewide advisory body to the State Chief Information Officer on cybersecurity and provides a statewide forum for discussing and resolving cybersecurity issues. The advisory body also provides information and recommends best practices concerning cybersecurity and resilience measures to public and private entities. In addition, the Council helps coordinate cybersecurity information sharing and promote shared and real-time situational awareness between the public and private sectors throughout the state. The Council is also very focused on encouraging the development of the State's cybersecurity workforce through programs designed to build workforce skills, disseminating best practices, facilitating cybersecurity research and encouraging industry investment and partnership with post-secondary institutions of education and other career readiness programs.

- Vision: We believe cybersecurity is a shared responsibility and must be accessible to all.
- Mission: Build tangible solutions to protect the digital lives of all Oregonians

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There is a strong coalition of support including government, business and education sectors supporting cybersecurity initiatives. The website <https://cyberoregon.com/> provides a portal to a broad collection of websites, toolkits, white paper, infographics, podcasts and webcasts to give you the resources and information you need to make tangible progress toward making your online world safe and private.

OCAC has developed several proposals to address cybersecurity needs the state.

### **Northwest Cyber Camp**

The Northwest Cyber Camp for High School Students has been in operation since 2016. It was founded by high school students with support from Charlie Kawasaki and others from industry. It is currently managed by Energy Sector Security Consortium and Oregon State University (OSU) with sites at OSU in Corvallis, Mount Hood Community College in Gresham and Oregon Institute of Technology in Wilsonville. Its mission is to inspire students towards careers in cybersecurity and has served more than 200 students since inception <https://www.nwcyber.camp>. OCAC recommends funding to expand the program.

### **Oregon Research and Teaching Security Operations Center (ORTSOC)**

ORTSOC is a Teaching hospital for cybersecurity currently serving a limited number of OSU students. It is focused on research to develop solutions to real-world problems, developing experiential learning, opportunities, providing security monitoring services, and information sharing and training through outreach. OCAC proposes that ORTSOC be expanded externally to provide services to underserved entities, scale the number of students including non-OSU students, and seed information sharing and training programs across the state.

[https://leadership.oregonstate.edu/sites/leadership.oregonstate.edu/files/experiential\\_learning\\_through\\_the\\_oregon\\_research\\_teaching\\_security\\_operations\\_center\\_poster.pdf](https://leadership.oregonstate.edu/sites/leadership.oregonstate.edu/files/experiential_learning_through_the_oregon_research_teaching_security_operations_center_poster.pdf)

### **Train the Trainers**

OCAC recommends that security and privacy education for the general public be provided through Libraries. Librarians and libraries should be funded to develop and offer technology programs in their communities. The program will train up to sixty librarians in cybersecurity and privacy over a period of two years so that they can be resources for their local communities.

OBAC asked that OCAC contribute its insights and expertise to the 2020 *Broadband in Oregon* report.

## Work Session

### Broadband in Oregon 2020 report

The report of the Oregon Broadband Advisory Council (OBAC) to the Legislative Assembly on the affordability and accessibility of broadband technology in all areas of the state, and on broadband technology use in healthcare, energy management, education and government, and on the role of broadband in local, regional and state economies, economic development, public policy issues, and key broadband related challenges and opportunities and facing the state is due on November 1, 2020.

The working draft of the 2020 report was discussed.

### Key Broadband Challenges and Opportunities

OBAC has identified the following key broadband challenges and opportunities facing Oregon.

- **Digital Inclusion:** Oregon needs state-level strategies and programs to ensure that all individuals and communities have access to affordable state of the art broadband communications services, and the skills, knowledge and technical support needed to use them.
- **Cyber Security:** The security of data and communications systems continues to be a critical risk exposure for government, public organizations, private sector businesses, and for individuals that is widely unrecognized and under managed. Oregon needs to follow-through on its 2017 cyber security initiatives [www.cyberoregon.com](http://www.cyberoregon.com). Ongoing, expanded and pro-active cyber risk management is needed.
- **Education:** Oregon's K-20 educational institutions are positioned to realize significant economic, work force and community development benefits for the state through the utilization of broadband networks and applications. State level support and coordination is needed.
- **Public Safety:** Oregon's first responders are at a transition point for migration to new broadband Internet Protocol (IP) technologies. Support is needed for Oregon's 911 centers and first responders to migrate from legacy systems to Next Generation 911 and to interoperable wireless broadband communications systems.
- **Agriculture,** which contributes more than \$8.25 billion to Oregon's economy each year, is emerging as an important application and will become the largest driver for broadband infrastructure deployment in rural areas of the state.
- **Local Community Broadband Planning:** Local community engagement in broadband development, adoption and utilization continues to be a high-return "game-changing" activity to be promoted and supported.
- **Federal Funding Programs:** Federal broadband programs are currently in flux but remain a key source of available financing to be leveraged for new infrastructure.
- **Study of all federal broadband funding programs and awards to Oregon applicants**
- **Network Interconnection:** Oregon needs to develop near-term strategies to improve the state's connectivity to national and global networks and support the growth of network enabled datacenters and e-commerce businesses and development of region exchanges to improve network performance and resilience.

## **Energy Management**

Dave Sabala and Mark Thompson have been working on a survey of Investor Owned and Customer Owned Utilities and smart grid penetration.

## **Government**

LOC and AOC are conducting surveys of county and municipal governments. OBAC will also work with the Association of Oregon Counties and the League of Oregon Cities on identifying population trends and correlations with broadband access infrastructure. Chris also requested an update from the Department of Administrative Services on [www.oregon.gov](http://www.oregon.gov).

## **Public Questions/Comments**

Lori Gleichman reported that Jefferson County is forming a Broadband Action Team to assess the needs of communities in the County and develop strategies to address them.

Rachel Wentz-Chaney noted that we have been making progress in closing the digital divide in schools. The full implementation of distance learning due to the pandemic has shown a light on the Homework Gap and the need for connectivity to students in their homes. She noted that Educational Service Districts are implementing help desks to assist students and their families obtain that connectivity.

Chris Tamarin reported that the 2020 Oregon Connections Telecommunications Conference. The next conference is scheduled for October 28-29, 2021.

Alexandra Corvello reported that Lane County has joined Linton and Benton Counties in forming a regional Broadband Action Team to explore broadband opportunities, digital inclusion. Lane County is also working with [www.SpeedUpAmerica.com](http://www.SpeedUpAmerica.com) and school districts to collect data on student connectivity.

## **Meeting Schedule**

The August 27, 2020, meeting of the Oregon Broadband Advisory Council was held as a virtual on-line web-conference. The next meeting of the council will be held on September 24, 2020 as a virtual on-line web-conference. Meeting information will be posted on the [council website](#).

Meeting adjourned at 11:50 am.

**Approved by:**

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Joseph Franell, Chair  
Oregon Broadband Advisory Council

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Date

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Christopher Tamarin  
Business Oregon

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Date