CARRIER OF LAST RESORT (COLR)

Report to the 2020 Legislature

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REPORT ON HOUSE BILL 3065 (2019) CARRIER OF LAST RESORT OBLIGATION

Executive Summary

The requirement that a telecommunications provider be designated as a carrier of last resort (COLR) has helped ensure that all Oregonians have access to voice telephony. COLR obligations were created to ensure that, when an incumbent local exchange carrier (ILEC) was granted the exclusive right to serve a designated service territory, the ILEC would provide service to all customers within that service territory.

In HB 3065 (2019), the Legislature directed the PUC to investigate the continuing relevance of the COLR obligations. Today, many customers can obtain voice telephony through a variety of technologies from numerous providers.

Following a nine-month public process that included broad public engagement and five workshops, the PUC has concluded its investigation and presents the following findings:

Finding #1: Communications are of Vital Importance to Oregonians.

In an era with many service providers and diverse communication options, the ability to communicate is often taken for granted. The COVID-19 pandemic and the tragic wildfires that have recently swept Oregon are an acute and important reminder that the ability to communicate is of vital importance to Oregonians.

Finding #2: Landline Voice Telephony Remains Important to Many Oregonians

Despite dramatic changes to the telecommunications industry, landline voice telephony remains important to many Oregonians. Even with the increase in cellular and other calling options, approximately 250,000 residential customers have retained landlines due to the lack of competitive options, service quality issues, health concerns, or personal choice.

Finding #3: COLR Obligations for Landline Voice Telephony Remain Relevant Today

Competition has not eliminated the need for a COLR. The lack of a requirement that competitive providers serve remote or high-cost areas, as well as the unreliability of non-terrestrial voice telephony, leave many customers, particularly in rural areas, without service alternatives. Eliminating the COLR obligation statewide would risk leaving a material number of Oregonians behind.

Finding #4: COLR Policies Could be Updated to Reflect Competition

Oregon has taken numerous steps to update voice telephony regulation to reflect competition, and could make additional changes to update COLR requirements. With the presence of competitive providers, the possibility exists that, for some urban parts of the state, ILECs could be relieved of the COLR obligations with minimal impacts to customers.

Finding #5: Numerous Challenges and Complications Face COLR Reform

Information and regulatory barriers face COLR reform. The data about competitive services is hard to collect and generally proprietary. In addition, the Federal Communications Commission (FCC) generally regulates competitive providers and technology, limiting Oregon's ability to ensure customer protections.

Finding #6: The Legislature Should be Cautious with COLR Reform &
Finding #7: Complementary Programs Must be Considered as Part of COLR Reform

The Legislature should be cautious with COLR reform, and must consider any reforms in conjunction with other programs that support universal voice telephony. These include state and federal Universal Service Funds and Oregon Lifeline, which subsidize the cost of voice telephony in high-cost areas and provide monthly bill credits to low-income Oregonians, respectively.

Finding #8: Promoting Universal Broadband Access Promotes Universal Voice Service

Meeting the broader policy goal of universal access to broadband would effectively moot the need for a COLR obligation for voice telephony, as broadband service can provide both information and voice services. More than a quarter of Oregonians live in areas that are unserved, underserved, or have older technologies that will not be able to meet the digital demands of the very near future.

Finding #9: There are Numerous Challenges to Achieving Universal Broadband Access

Many challenges exist with unifying the treatment of providers that are subject to different regulations but increasingly providing homogeneous services towards a goal of ubiquitous broadband access. In the absence of direct regulatory authority, Oregon can explore the use of recent actions to promote broadband development and other incentives to move toward universal access to broadband in the state.

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Background

The Oregon PUC

The PUC's mission is to ensure that Oregon utility customers have access to safe, reliable and high-quality utility services at just and reasonable rates. We perform quasi-judicial functions involving robust analysis and independent decision-making through deliberative, litigated processes. Our agency also exercises discretion to interpret and incorporate executive and legislative priorities into rules, utility planning, and customer programs.

Our agency is led by a full-time, three-member Commission appointed by the Governor and confirmed by the Senate. With approximately 80 subject-matter experts in utility operations and regulatory policy, we regulate three electric utilities, three natural gas utilities, and numerous telecommunications utilities and water utilities.

We implement a variety of statutory directives, review detailed technical information, adjudicate legal disputes, and engage with a wide array of stakeholders and policymakers in the energy, telecommunications, and water sectors across the state.

House Bill 3065 (2019)[1]

In House Bill (HB) 3065, the Legislature directed the PUC to establish a public process to investigate the continuing relevance of the COLR obligation on telecommunication providers. The Legislature asked us to focus on developing industry trends, technologies, and policy drivers, and to examine whether they impact existing regulatory system administered by the PUC for ensuring adequate and reasonable access for residential customers to telecommunication services in all areas of the state.

In its directive, the Legislature asked whether changes to the exiting regulatory system could accommodate developing industry trends and support new policy objectives without compromising residential customers' access to reliable and safe service at reasonable rates on a nondiscriminatory manner. The Legislature requested that we focus specifically on:

- Customers whose individual circumstances and needs may impact their access to and usage of telecommunications services, including low-income customers

[1] https://olis.leg.state.or.us/liz/2019R1/Downloads/MeasureDocument/HB3065/Enrolled

- Residential customers with access at their home to fewer than two of the following land-based service alternatives:
  - Telecommunication services provided by a facilities-based competitive local exchange carrier
  - Voice service offered via interconnected VoIP, or
  - Voice service offered by a cellular communications service; and
- The comparability of voice service offered by wireless internet service providers (WISP) and satellite providers

HB 3065 also instructed the PUC to make determinations on the need for changes to the existing regulatory system and incentives that would be in the best interests of residential customers and the general public, including development of implementation plans to make changes within it current statutory authority and recommendations to the Legislature.

HB 3065 Report

This report fulfils the final directive of HB 3065 to report to the interim committees of the Legislature related to economic development, business, and general government by September 15, 2020. We have concluded our investigation, and submit our findings below.

We divide our report into five sections. We begin with a description of the public process used for this investigation, and summarize our efforts to maximize public participation. We also describe our workshop format, along with a short summary of the HB 3065 workshops.

Next, we organize our report around the key subjects that were the focus of the workshops:

1. *Understanding the Regulatory Framework*. We provide a basic review of the regulatory framework governing the COLR requirement to help provide the context to better understand the potential consequences of changes to this obligation.
2. *Industry Trends, Technologies, and Policy Drivers*. We discuss the numerous changes to the telecommunications industry that have given rise to questions about the continuing relevance of COLR obligations.
3. *Impacts of Potential COLR Relief*. We address the impacts of potential COLR relief as informed by our stakeholders, as well as the public.
4. *Stakeholder Recommendations*. We summarize the recommendations filed by the stakeholders to our public process.

Finally, drawing from information obtained during the public process, we conclude with our findings and discussion of the continuing relevance of COLR obligations.

PUC Public Process

To help ensure broad participation and to promote a robust dialogue on the continuing relevance of the COLR obligation, we used innovative and non-traditional practices in the HB 3065 public process. We began with broad outreach to stakeholders—both those familiar and new to the PUC's work—to help determine a meaningful and successful public process.

Initial Outreach

From the outset, we recognized the need to involve stakeholders early to obtain their input on how best to conduct this public process. We held individual meetings with many key stakeholders shortly after the 2019 Legislative Session concluded. These stakeholders included Representatives Pam Marsh and E. Werner Reschke, who co-sponsored HB 3065, as well as the Oregon Citizens' Utility Board (CUB), telecommunications providers and industry groups, as well as non-traditional stakeholders including representatives from local governments, rural communities, emergency providers, low-income advocates, and tribal governments. In all we held more than 24 in-person meetings, and conducted additional outreach through email and by telephone.

During this outreach, we sought input on the following questions:

- What would a successful PUC process look like to your organization?
- Should the scope be broader than the COLR obligation?
- What's the best process for the PUC to educate, inform, and engage itself and its stakeholders around the questions asked by HB 3065?
- Are there process hazards we should avoid?
- What existing resources could benefit the PUC and other stakeholders during or prior to this investigation?
- What other stakeholders should be engaged?

Workshop Series

Based on the information shared during the interviews with stakeholders, we chose an informal public process and designed a series of workshops to align with the framework set forth in HB 3065. To promote robust participation, we worked to expand outreach to involve non-traditional PUC stakeholders. We created a list of more than 150 potential stakeholders to participate in the workshops and discussions, and made special efforts to engage low-income and under-served populations in the investigation by working in partnership with American Association of Retired Persons (AARP), National Association for the Advancement of Colored People (NAACP), the tribal nations of Oregon, Oregon Farm Bureau, Legislative Commission on Tribal Services, various consumer advocacy groups, among others. Stakeholders, who were vital to the success of this project, played an

important role by helping inform the discussions and providing input on their perspectives of COLR and the telecommunications industry and customer needs.

COLR Workshops 1 and 2: Understanding the Regulatory Framework

The first two workshops were held on January 21 and February 18, 2020 at the PUC's offices in Salem. The meetings were focused on defining the scope and purpose of the investigation, and ensuring all participants had baseline knowledge of telecommunications and the COLR obligation to effectively participate in the investigation. To assist in that effort, we prepared a COLR Whitepaper to provide a foundational framework of COLR obligations.[2] During the workshops, we also undertook a group exercise to develop a matrix to identify the various communications providers and the applicable regulatory requirements.

COLR Workshop 3: Industry Trends and Policy Drivers

Due to the COVID-19 pandemic, we adjusted the remaining workshop schedule and used webinar and video conferencing technology to ensure the safety of everyone participating. The third workshop was held May 14, 2020, and featured presentations on industry trends, technologies, and policy drivers. The presenters included groups representing large ILECs, small ILECs, consumer groups, government, and non-ILEC communication service providers. These presentations provided insights into the differences each group faces with the consideration of changes to the COLR obligation.

COLR Workshop 4: Impacts of Potential COLR Relief

In place of a fourth workshop, stakeholders were encouraged to submit written responses to a series of questions designed to better understand the impacts of potential COLR relief. Although no specific proposals were addressed during this process, potential options for COLR relief could include relaxing, reassigning, or eliminating the COLR obligation, or making other regulatory changes. Our questions to the stakeholders focused on whether COLR relief could be provided without compromising residential customers' access to reliable and safe service at just and reasonable prices in an adequate and nondiscriminatory manner.

COLR Workshop 5: Changes to the Existing Regulatory System and Incentives

The final workshop was held August 13, 2020, where stakeholders discussed in detail their recommendations that were submitted in writing earlier that month.

[2] A copy of the PUC White Paper is available at the following link: https://www.oregon.gov/puc/utilities/Documents/PUC-COLR-White-Paper.docx.pdf

Public Input

We recognized the need for robust customer participation from across the state to inform this report, and provided various ways for the public to comment on their telecommunications service needs, as well as the availability and quality of those services at their residence. We worked diligently to ensure Oregonians were informed of their opportunity to comment on these issues, and partnered with various organizations such as NAACP, AARP, government agencies, state legislators, media outlets, school districts, among others, to promote the opportunities to comment as noted below.

One method used was a Customer Survey focusing on the public's voice telephony needs and availability of competitive services. We developed the survey with input from participants to our HB 3065 Public Process, and promoted it through statewide media outlets, numerous organizations, and PUC stakeholders. To ensure widespread participation, we also partnered with numerous organizations and stakeholders, including: Oregon Cable Telecommunications Association (OCTA), CUB, League of Oregon Cities, Oregon Counties Association, Business Oregon, AARP, Community Action Partnership of Oregon (CAPO), Oregon Environmental Justice Task Force, OPAL Environmental Justice Oregon, Northwest Energy Efficiency Alliance, Oregon Tribal Governments, Oregon Legislature, various school districts, among others. Appendix A includes a few examples of promotions by some of these partners, which expressed the importance of this information and provided a link to the survey.[3] Ultimately, over 2,600 Oregonians responded to the survey.

We also hosted two Commission public comment hearings. Originally planned to be in-person in Jacksonville, Ontario, and Florence, the hearings were rescheduled and held on May 28, 2020, via webinar and June 9, 2020, via conference call to ensure public safety during the COVID-19 pandemic. The PUC used two different conference formats to ensure access by everyone regardless of their understanding and availability of technology options or lack of internet connection.

The PUC also provided opportunities throughout this process for the public to provide comment via our website or email.

[3] To make the web-based survey accessible to customers without access to the internet, we provided an option for customers to call the PUC's Consumer Services Division, whereby they could provide responses to the Consumer Services staff.

Understanding the Regulatory Framework

The current regulatory framework is complex, due to the telecommunications sector's long and intricate history of legal, technological, and commercial evolution. While a complete account of this history is outside the scope of this report, a basic review of relevant aspects is necessary to understand the COLR obligation and the potential consequences of changes to this requirement.[4]

COLR Obligations for Voice Telephony

COLR obligations were created to ensure that, when a utility service provider was granted an exclusive service territory, the utility would provide service to all customers within that territory. The COLR designation includes the obligation to extend facilities where necessary to provide service, and prohibits the utility from withdrawing service without regulatory approval. COLR obligations have been applied to all utility sectors, including telecommunications, energy, and water, and help ensure access to critical services for all end users, regardless of their location or ability to receive service from another provider.

The COLR obligation at issue in this investigation comes from ORS 759.500 *et seq.,* which allows telecommunications utilities to acquire exclusive service territories. The allocation of territories helped eliminate unnecessary and uneconomical duplication of utility facilities and ensure rates remain just and reasonable. An "allocated territory"—generally referred to as a local exchange for telecommunications—means "a geographic area for which the Public Utility Commission has allocated to no more than one person the authority to provide local exchange telecommunications service, the boundaries of which are set forth on an exchange map filed with and approved by the commission."[5] There are currently 267 allocated telephone exchanges in Oregon.[6]

The COLR obligations are specifically identified in ORS 759.506(1). That provision requires an entity allocated an exclusive service territory to provide "local exchange telecommunications service," and to all customers in a nondiscriminatory manner. The term "local exchange telecommunications service" is a combination of two concepts. First, "local exchange" means service provided within the boundaries of the allocated service territory.[7] Second, "telecommunications service" means the transport of voice communications, and

[4] Like its history, the terminology used in telecommunications is complex, and ever evolving. We have tried to minimize the use of technical terms, and have defined them when necessary. To assist the reader, we have developed a glossary of terms and acronyms used in this report that is attached as Appendix B.

[5] *See* ORS 759.500(1). Although the PUC has some statutory authority to exempt a provider from the COLR obligations, it may do so only with respect to property with four or more single-family dwellings. *See* ORS 759.506(3).

[6] A map of the exchanges is available at: https://www.oregon.gov/puc/utilities/Documents/COLR-Map.jpg.

[7] *See* ORS 759.005(3).

all services provided in connection with such service, without regard to the facilities used to provide the service.[8]

Based on that definition, the COLR obligation is limited in application and scope. First, it applies only to entities granted exclusive service territories. Second, the obligation requires only that these entities provide basic voice telecommunications service (which we will refer to in this report as **voice telephony**). Such service must, however, be provided to all customers on a non-discriminatory basis.

Incumbent Local Exchange Carriers (ILECs)

Entities that obtained allocated service territories are generally referred to as incumbent local exchange carriers (ILECs).[9] Thirty-three different ILECs have been allocated territory under Oregon law. These include investor-owned utilities, cooperatives, and municipalities.

CenturyLink, which traces its origins back to the Bell telephone system and now includes affiliates from the former carrier Sprint/United, is the largest ILEC in Oregon. It serves approximately 334,802 access lines in 155 local exchanges along the Interstate 5 and Interstate 84 corridors, as well as central and eastern Oregon.

Northwest Fiber, dba Ziply Fiber, is Oregon's second largest ILEC, and traces its roots back to GTE, which took the name Verizon in 2000, and was purchased by Frontier in 2010. Ziply Fiber purchased Frontier's operations in Oregon, Washington, Idaho and Montana earlier this year, and serves approximately 101,000 access lines in 54 exchanges located primarily in west Portland, northeastern Oregon, and the southern coast.

In addition to these two large carriers, many smaller ILECs provide service to more rural areas of the state. Some of these entities are under common ownership or control, while others are cooperative associations or government providers that are exempt from many aspects of PUC regulation. In all, these smaller ILECs serve approximately 46,712 access lines in 58 local exchanges across Oregon.

PUC Regulation

[8] *See* ORS 759.005(8) and OAR 860-032-0001(12). Basic voice telecommunications service traditionally was provided using copper wires. Today, companies may deliver voice telephony using more advanced technology (*i.e.,* fiber lines) over which companies may also deliver advanced services (*i.e.,* broadband). However, regardless of the technology used, the COLR obligation remains limited to basic voice telecommunications service.

[9] ILECs (as well as competitive local exchange carriers discussed below) are also commonly referred to as landline carriers,

Although the PUC designates allocated service territories for all ILECs, it provides rate and service oversight only for investor-owned ILECs (not cooperatives or government-owned providers). The PUC's enabling statues provide that, in serving this function, the agency:

> [S]hall represent the customers of any public utility or telecommunications utility and the public generally in all controversies respecting rates, valuations, service and all matters of which the commission has jurisdiction. In respect thereof the commission shall make use of the jurisdiction and powers of the office to protect such customers, and the public generally, from unjust and unreasonable exactions and practices and to obtain for them adequate service at fair and reasonable rates.[10]

The PUC's primary function is that of an economic regulator to ensure that customers of investor-owned utilities receive safe and reliable service at just and reasonable rates. Ratemaking involves an exercise of PUC discretion to balance the interests of the utility investor and the customer. The PUC has historically performed this function through cost-of-service regulation, which endeavors to set rates sufficient for the utility to have the opportunity to recover reasonable operating costs, including the cost of capital.

Once rates are set, the utility must charge those rates on a non-discriminatory basis. For residential customers, the PUC traditionally required rates for voice telephony to be based on statewide average pricing, which generally requires the utility to charge all residential customers the same rate regardless of where they live in the utility's various service territories.

Cost-of-service regulation is not the only way the PUC regulates utility rates, however. In response to the changing telecommunications landscape, the Legislature in 2002 authorized the PUC to adopt alternative forms of regulation in the form of a price plan,[11] and currently both CenturyLink and Ziply Fiber operate under price plans.[12] Generally, these price plans allow the utilities to raise their prices for residential voice telephony up to an established cap; for business and other services, a price plan gives the ILECs pricing flexibility with no cap. The PUC is also authorized to waive numerous statutory provisions in order to reduce the regulatory burden on the utilities, but does *not* give the PUC the authority to waive COLR obligations.

The PUC also regulates the quality of service provided by investor-owned ILECs (but not for cooperatives or government providers). Oregon law requires these ILECs to provide safe and adequate service on a nondiscriminatory basis,[13] and the PUC has adopted

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[10] ORS 756.040.

[11] ORS 759.255. In the 1990's, the Oregon Legislature had previously authorized the use of price caps as an alternative form of regulation. *See* ORS 759.425-445.

[12] Frontier and Citizens, Order No. 18-303, amended by Order No. 19-038, (Docket UM 1895) and Qwest, CenturyTel and United, Order No. 18-359 (Docket UM 1908).

[13] ORS 759.035 (imposing the duty to furnish adequate and safe service at reasonable rates); ORS 759.450(1) (imposing minimum service quality standards).

minimum service quality standards for voice telephony to ensure safe and adequate service.[14]

Retail telecommunications service quality standards address a number of aspects of service quality. Examples of these standards are requirements related to technical measurements affecting voice quality, timeliness of installation and repair commitments, number of trouble reports, and representative telephone answer time.

Supporting Programs

In addition to the COLR obligation, other programs support Oregonians' access to voice telephony. These policies and programs are directed at both the provider and the end user.

Federal and State Universal Service Funds

The PUC and the FCC administer state and federal universal service fund (USF) programs that provide subsidies to further the goal that service be accessible to everyone. The FCC currently operates four universal service programs:

- Connect America Fund (formally known as High-Cost Support) for rural areas
- Lifeline for low-income consumers, including initiatives to expand phone service for residents of Tribal lands
- Schools and Libraries (E-rate)
- Rural Health Care

Based on a similar principle of promoting service to all, in 1999 the Oregon Legislature directed the PUC to create a state universal service fund to ensure basic telephone service is available at a reasonable and affordable rate.[15] The PUC has defined "basic telephone service" to mean "retail telecommunications service that is single party, has voice grade or equivalent transmission parameters and tone-dialing capability, [and] provides local exchange calling."[16]

Both state and federal programs are funded through a surcharge on retail telecommunications services. Contributors to the funds are allowed to, but are not required to, recoup their contributions from customers up to the level of contribution. The fund contributions are then distributed to service providers. A service provider must be designated as an "eligible telecommunications carrier" (ETC) in order to receive federal and state USF support. The PUC presides over and approves ETC designations for both funds, which have similar but slightly different eligibility criteria.

[14] ORS 759.450(2) (requiring the PUC to adopt minimum service quality standards).
[15] ORS 759.425.
[16] OAR 860-032-0190.

To receive funds from either program, an ETC must be willing to serve throughout the area for which funds are provided and advertise the service.[17] This requirement is similar to but not identical to a COLR obligation. For example, there is no requirement that service be provided on a non-discriminatory basis. In addition, the FCC has designated census blocks in many service areas where providers, notably those that are price-cap regulated like CenturyLink and Ziply Fiber, no longer need to provide voice service to obtain federal USF. All of Oregon's 33 ILECs and two landline competitive providers—Douglas Fastnet and Comspan—are certified as ETCs and receive USF support.[18]

Both USF programs are expanding their focus beyond voice telephony and adapting to provide support for broadband infrastructure. Through Senate Bill 1603 (2020)[19], the Legislature recently amended the Oregon USF to expand the funding surcharge to also apply to retail cellular and VoIP services. The Legislature also established a broadband fund, and directed the PUC to annually transfer up to $5 million to the Oregon Business Development Department to establish a program for providing grants and loans for broadband service infrastructure projects.

Oregon Lifeline

Another supporting program to ensure access to basic telecommunications services is Oregon Lifeline, a federal and state program administered by the PUC that reduces the monthly cost of a telephone (or broadband service) for qualifying low-income Oregon households. These combined programs typically provide a discount up to $12.75 per month for qualifying recipients for voice service or broadband service with participating companies. In response to the COVID-19 pandemic, the Legislature recently provided the PUC additional funds to temporarily increase those discounts to $19.25 per month for voice and $21.25 per month for broadband service. Eligible customers also have the option to receive, instead of these monthly discounts, a company provided cellular phone and subsidized data service.

Oregon has established a separate funding source to pay the state's portion of the Oregon Lifeline Program. ORS 759.685 allows the PUC to collect "an amount not to exceed 35 cents per month against each paying retail subscriber who has telecommunications service, or who has interconnected voice over internet protocol service * * * [.]" Currently, the surcharge is $0.10 per month, and is used to support not only Oregon Lifeline but also the PUC's Telecommunications Device Access Program and Oregon Relay to help provide

[17] These areas may differ from the local exchange areas served by ILECs, such as by wire center or census block.

[18] Some wireless companies also operate under ETC designations for the Oregon Lifeline Program, as discussed below, which correlate to the low-income portion of the federal USF program. In Oregon, the eligible telecommunications provider (ETP) status is analogous to an ETC designation, and is required for a company to receive Oregon Lifeline assistance funding.

[19] https://olis.oregonlegislature.gov/liz/2020S1/Downloads/MeasureDocument/SB1603/Enrolled.

equipment and services to enable telecommunications service for persons who are deaf, deaf-blind, hard of hearing, or have a speech impaired disability.

Companies who wish to participate in the Oregon Lifeline program must be certified as ETPs, as noted above, and carry the same service obligations as ETCs.

Competition

It is no longer the case that customers located in a designated territory are exclusively served by ILECs via traditional landline service. With regulatory changes and technological advancements, many customers can choose different products and service providers to meet their communication needs. In addition, customer needs are expanding beyond voice telephony, as high speed access to the internet is becoming a necessity for more and more aspects of Oregonians' daily lives.

Alternative Providers

For many Oregonians, ILECs are not the only option for voice services. Before we briefly describe these other providers and technology options, we highlight that there is not a common regulatory framework governing these various competitive providers and the services they provide. We describe some of those difference below, but for convenience developed a regulatory framework matrix that helps clarify which providers are subject to various regulations, from COLR to USF to public safety requirements. The matrix is available at: https://www.oregon.gov/puc/utilities/Documents/COLR-Matrix.pdf

Competitive Local Exchange Carriers (CLECs)

In the Telecommunications Act of 1996, Congress sought to promote competition by requiring the large ILECs to provide access to parts of their network on a resale basis to enable competitors to provide voice telephony. Those competitors, which are referred to as competitive local exchange carriers (CLECs), purchase these "unbundled network elements" (UNEs) to provide services to end users that compete with the services provided by the ILECs. Some CLECs have built their own physical networks.

CLECs are authorized to provide competitive services in the large ILEC's service territory on an exchange-by-exchange basis, and are subject to limited regulatory oversight. The PUC does not regulate the price, terms, or conditions by which CLECs provide voice telephony, but these providers must follow the terms of their certificate, PUC rules, and laws applicable to competitive providers. These include the requirement to offer service throughout the designated exchange(s), but there is no obligation to provide service on a non-discriminatory basis.

Cellular, Cable Television, Satellite, and Fixed Wireless

Technology advances have enabled entities other than ILECs and CLECs to provide voice service. Most significantly, cellular providers use wireless technology to offer voice and information services. Cable television (CaTV) providers also have gained the ability to offer voice services to their customers, and advances in Internet Protocol (VoIP) calling and rising technologies (such as satellite and fixed wireless) have allowed additional competitive choices for many customers.[20]

States and their utility commissions have limited authority over these competitive providers, which are primarily regulated at the federal level. Where CaTV companies provide voice service, they are subject to the PUC's authority as described above; primarily, however, they are regulated by franchise agreements, city and county ordinance, the FCC, and federal and state law. Cellular carriers, satellite and fixed WISPs are primarily regulated by the FCC.

Broadband Internet Access

Although this investigation is focused on the COLR obligations to provide voice telephony, our examination would not be complete without recognizing the fact that, given the increasing role of the internet in virtually all aspects of modern society, customer demands are shifting away from voice telephony towards modern communications networks capable of providing broadband internet access.

Broadband is an inexact term, but is commonly used to describe high-speed internet access via wide bandwidth data transmission that can simultaneously transport multiple signals and traffic types. The FCC's benchmark for reliable high-speed internet is derive having download speeds of at least 25 megabits per second (Mbps) and upload speeds of at least 3 Mbps. Broadband can be delivered via multiple technologies, including fiber, fixed wireless, digital subscriber line (DSL), cable, or satellite.

Efforts to expand broadband availability are primarily focused on extending infrastructure to homes and small businesses, particularly in rural areas. While providers have deployed broadband to many urban and suburban areas, many rural areas remain unserved or underserved. The FCC maintains a map showing the number of Oregon's fixed residential broadband providers that provide service at 25/3 Mbps. The map, which is available at https://go.usa.gov/xfwcn, reveals the digital divide between urban and rural parts of the state.

Oregon's efforts to expand broadband are challenged by the absence of state regulatory jurisdiction over broadband. The FCC has assigned broadband under the category of "advanced telecommunications capability" and preempted states from regulating the service. Although broadband is offered by many ILECs in their service territories, the PUC's regulatory authority is limited to voice telephony and does not extend to their provisions of broadband services, even when bundled with voice telephony.

[20] For more information, see page 8 of the COLR White Paper cited in footnote 2.

Despite this limitation, Oregon has taken numerous steps to help expand broadband access. The Legislature has made broadband access a state goal. ORS 759.016(1) provides, in part:

> [t]hat it is the goal of this state to promote access to broadband services for all Oregonians in order to improve the economy in Oregon, improve the quality of life in Oregon communities and reduce the economic gap between Oregon communities that have access to broadband digital applications and services and those that do not, for both present and future generations * * *.

In December 2018, Governor Brown issued Executive Order 18-31 to create the Oregon Broadband Office within the Oregon Business Development Department.[21] The order finds that "broadband constitutes critical infrastructure for the prosperity of all Oregonians, especially Oregon's rural and underserved communities," and directs the Oregon Broadband Office to, among other things, "[a]dvocate for the adoption of public policies that remove barriers to and support broadband infrastructure deployment to close the continuing digital divide."[22] The Legislature subsequently passed House Bill 2173(2019) to place the Oregon Broadband Office into statute.

In addition, this summer the Legislature allocated $10 million of monies received under the Coronavirus Aid, Relief, and Economic Security (CARES) Act of 2020 to support the Oregon Rural Broadband Capacity Program run by Business Oregon. The funds are intended to support infrastructure construction and emergency response projects to provide increased broadband access for telework, telehealth, and K-12 distance learning applications in unserved and underserved areas in response to the COVID-19 public health emergency. Moreover, as noted above, the Legislature also enacted SB 1603 to require that up to $5 million annually from the Oregon USF be used to support broadband infrastructure build-out.

The federal government is also taking action to promote broadband in rural parts of the country. The FCC has created the Rural Digital Opportunity Fund (RDOF) to provide $20.4 billion in funding to help bring high speed fixed broadband service to rural homes and small businesses.[23] This October the FCC will conduct its Phase I auction to cover census blocks entirely unserved by voice and broadband with download speeds of at least 25/3Mbps. The FCC will later conduct a Phase II auction to cover census blocks that are partially served, as well as locations not funded from the Phase I auction.

[21] Executive Order 18-31 is available at: https://www.oregon.gov/gov/Documents/executive_orders/eo_18-31.pdf.

[22] ORS 285A.166; https://olis.leg.state.or.us/liz/2019R1/Downloads/MeasureDocument/HB2173/Enrolled.

[23] More information can be found about the RDOF at: https://www.fcc.gov/auction/904/factsheet.

Industry Trends, Technologies and Policy Drivers

During the third COLR Workshop, stakeholders gave presentations on telecommunications industry trends, technologies, and policy drivers. The presenters included groups representing large ILECs, small ILECs, consumer groups, government, and non-ILEC communication service providers. These presentations provided insights into the differences each group faces in considering of changes to the COLR obligation.

The primary industry trend over the last decade and more is the contraction of the number of landline customers served by ILECs. Most notably, the number of residential landline customers in Oregon has declined by two-thirds between 2008 and 2018.[24] Much of the line losses seen by the landline telecommunications sector can be attributed to the dramatic increase in cellular services and usage by Oregonians since the late 1990s. In 1999, there were fewer than one million cellular phones in Oregon, but that number had risen to 3.7 million by 2018.[25] Other advances in technology, including use of CaTV and VoIP,[26] have provided additional competitive options for voice telephony.

As competitive options increased, residential customers began to shift away from using landlines with many eventually opting to cut the cord and go without landline service of any kind. In 2018, 63 percent of residential households in Oregon had no landline service.[27] Despite these residential line losses, there continues to be approximately 250,000 residential landlines in Oregon, and the number of business landlines has remained relatively unchanged, largely staying between 600,000 and 700,000 lines between 2008 and 2017.[28] Moreover, while many Oregonians have demonstrated a preference for cellular and other competitive options, the remaining landline customers have expressed continued reliance on their landline service for reasons that include lack of access to reliable cellular service, reliance on special landline services, and customer preference for landline service.

The addition of cellular carriers, CaTV, VoIP providers, satellite, and other technologies has added competition for the voice telephony services that represent the basis of COLR. However, the PUC's own 2019 Local Telecommunications Survey[29] found that the telecommunication market remains moderately concentrated and not competitive and

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[24] Citizens' Utility Board. "COLR Public Proceeding – Workshop #3 Presentation." May 14, 2020.

[25] *Id.*

[26] There are wide ranging views on what constitutes VoIP service. VoIP is used to describe a variety of voice services that employ an internet protocol. Some providers call their service VoIP to avoid regulation and payment of interconnection charges. The FCC has largely left the question of what constitutes VoIP question untouched. Services requiring VoIP phone or specialized VoIP compatible customer premise equipment may be considered voice service. However, a technical classification depends on analysis on a case by case basis.

[27] CenturyLink. "Industry Trends and Policy Drivers Affecting Carriers of Last Resort: Presentation to the Oregon Public Utilities Commission." May 14, 2020.

[28] OPUC. "Local Telecommunications Competition Survey." January 2019.

[29] https://www.oregon.gov/puc/forms/Forms%20and%20Reports/2019-Competitive-Provider-Report.pdf

customers' options in most areas are limited, especially for residential service.[30] The survey also concluded that the cellular industry is even more competitively imbalanced between rural and urban areas than the landline industry.

The declines in Oregon's residential landline sector have not been uniform throughout the state nor throughout the industry. The state's large ILEC providers have been hardest hit by the declines in residential customers over the last decade, in large part because the majority of their historic customers have been located in more urban and suburban areas of the state where access to competing carriers and technologies, including cellular and VoIP, are highest. By contrast, small telecom utilities and cooperatives have seen their lines losses level off since the early 2010s. Overall, in stark contrast to 20 years ago when competition was first introduced to Oregon's telecom industry, competitive providers serve more business and residential landlines customers than ILECs.[31] ILECs retain a majority share of residential landlines with 58 percent of market, while competitive providers serve 42 percent.[32]

The net impact of the decline in landline customers has been a loss of revenue to the ILECs. Revenues have dropped by approximately 60 percent from their peak for the state's two large ILECs, while declining by 47 percent for small telecom utilities and 23 percent for cooperatives.[33] And as the percentage of remaining residential landline customers shifts towards being served by small telecom utilities and cooperatives, landline services are increasingly reliant on state and federal support with 52 percent of cooperative and 62 percent of small utility revenues coming from the combination of state and federal high-cost support funds.[34] The loss of revenue has presented further challenges for traditional voice landline service because, as the market has contracted, a greater relative percentage of rural customers in high-cost areas has increased and raised overall costs of voice telephony.

The increase in competitive choices has not been uniform across Oregon. The rural-urban divide in telecommunication service has been present in the industry since the very beginning of a telecommunications industry in Oregon and represents a primary basis for the creation of COLR—that is, to ensure that voice telephony would be provided in rural areas. But, as the focus of telecommunications shifts to broadband internet access and the services it enables, the urban/rural division in access to quality service has only grown in importance. This importance is further underlined by the COVID-19 pandemic, which has shifted commerce, education, and community onto the internet and made quality broadband service critical.

[30] OPUC. "Local Telecommunications Competition Survey." January 2019.

[31] CenturyLink. "Industry Trends and Policy Drivers Affecting Carriers of Last Resort: Presentation to the Oregon Public Utilities Commission." May 14, 2020.

[32] The Commission's 2019 Telecommunications Competition Survey.

[33] *Id.*

[34] *Id.* By comparison, state and federal support account for 5 percent of the large ILECs' revenues.

The 2020 Oregon Statewide Broadband Assessment and Best Practices Study found that more than a quarter of Oregonians lived in areas of the state that are unconnected, unserved, underserved, or have older technologies that will not be able to meet the digital demands of the very near future.[35] The study found that broadband service provided by fiber and cable technologies, most commonly found in urban and suburban areas of Oregon, enjoyed broad satisfaction from surveyed customers for both the speed and reliability of the services they provide. By contrast, DSL and satellite broadband services, which are more common in Oregon's rural areas where access to other types of broadband technologies is limited, suffered by comparison; a majority of customers surveyed reported that the services were not fast enough and had occasional or frequent reliability problems.[36] The broadband study found a 22.5 percentage point gap between the percentage of Oregon's urban and rural households served by current broadband that meets the FCC's benchmark—64.1 percent versus 41.6 percent. The overall conclusion of the study was that this digital divide would not narrow in the foreseeable future without public action to address the competitive market limitations and failures present in the broadband internet sector.

Similar to other telecommunication sectors, the cellular industry has seen a massive shift in towards data usage and away from standard voice telephony. Cell sites have increased by 44 percent over the period from 2008 to 2018 to 350,000 in the U.S. At the same time, cellular data usage has increased by almost 50 times, increasing by 82 percent from 2017 to 2018 alone.[37] This growth has placed significant pressure on the cellular industry to invest in infrastructure and technology in areas of high usage to meet the rapidly growing demand. The installation of 5G technology will expand the capacity of the wireless industry to handle smartphone data consumption in dense urban areas. However, investments in 5G in more rural areas of Oregon are not expected in the foreseeable future because of the limited range of the technology and high cost. As a result, the rural-urban digital divide is only likely to increase further in the coming years as a result of competitive market forces.

[35] Strategic Network Group. "Oregon Statewide Broadband Assessment and Best Practices Study." January 2020.

[36] *Id.*

[37] CTIA (wireless trade association) Comments, HB 3065 COLR Public Meetings. March 17, 2020.

Impacts of Potential COLR Relief

The most challenging directive in HB 3065 was to examine the impacts of potential COLR relief. The Legislature asked us to address whether COLR relief could be provided "without compromising residential customers' access to reliable and safe service at just and reasonable prices in an adequate and nondiscriminatory manner." In answering this question, the Legislature specifically identified three areas of inquiry:

- The impacts to customers whose individual circumstances and needs may impact their access to and usage of telecommunications services, including low-income customers.
- The impacts to residential customers with access at their domicile to fewer than two of the following terrestrial based service alternatives:
  - Telecommunications services provided by a facilities-based competitive local exchange carrier;
  - Voice service offered via interconnected Voice over Internet Protocol; or
  - Voice service offered by a cellular communications service
- The comparability of voice service offered by wireless Internet service providers and satellite providers.

A large part of the difficulty lies in the data needed to assess whether Oregonians have access to alternatives, and whether those alternatives are comparable. The data needed to inform the potential impacts to residential customers of COLR relief is difficult to collect, and is subject to becoming stale in a short period of time.

As noted, Oregon's jurisdiction, and in turn the PUC's authority over telecommunications services, is generally limited to regulation of voice telephony provided by ILECs and the certification of CLECs, ETCs, and ETPs. This authority allows the PUC to obtain from the providers extensive information about the ILECs' operations, including the location of network infrastructure and facilities to provide voice telephony, as well as the status of landline competition in the local exchange markets. [38]

Obtaining information as to the availability of competitive services offered by cellular, CaTV, broadband, WISP, and satellite providers is not within the PUC's authority. These providers are under no obligation to share such information, which they consider to be under no obligation to share such information, which they consider to be proprietary and highly confidential. Many of the providers do provide broad coverage maps, but these maps generally lack specificity and do not necessarily guarantee service to every customer located within the indicated service areas. For example, the availability and quality of non-terrestrial based services (*i.e.*, cellular and satellite) is highly dependent upon geography,

[38] The PUC reports to the Legislature on the status of competition within the local exchange markets every two years. The most recent report is available at: https://www.oregonlegislature.gov/citizen_engagement/Reports/2018-PUC-Competitive%20Provider%20Report.pdf

vegetation, weather, and other factors. It is difficult to determine whether specific services are actually available in various parts of Oregon without more granular information than broad coverage maps provide.

This information barrier is further challenged by the transitory nature of the data. Even if granular data could be obtained as to the availability of competitive voice services provided by cellular, CaTV, broadband, WISP, and satellite providers, the information would merely reflect a snapshot of current competitive conditions. Due to evolving market conditions and the entry and exit of providers, the presence of competitive alternatives today does not necessarily guarantee that an option available in a particular community today will exist in the future.

In an effort to overcome these obstacles of data access and currency, we sought information on the impacts of potential relief using three methods. First, we sought input from stakeholders active in our public process. Second, we developed a Customer Survey to gain input directly from customers. Third, we held two public comment hearings and welcomed public input throughout the process.

Stakeholder Comments

Stakeholders active in the PUC's COLR process provided written comments on a series of nine questions in order to inform the PUC about the impacts of COLR relief and the competitive landscape for voice telephony throughout Oregon, both geographically and demographically. The first two questions focused on what measures could be employed to protect customers from negative impacts if COLR relief were granted. The remaining questions requested that stakeholders provide any third-party research or data sources and studies documenting:

- The incidence of telecommunications competition for residential customers throughout Oregon
- The relative comparability of voice service offered by wireless Internet service and satellite providers
- The urban-rural and urban-urban service disparities and coverage holes in cellular coverage
- Landline dependency in low population density areas
- Drivers for adoption of non-wireline providers of voice telephony, particularly by low-income households and senior citizens

We received comments from CenturyLink, Ziply Fiber, CUB, GVNW Consulting, and the League of Oregon Cities (LOC).

Comments on Mitigating Impacts of COLR Relief

All respondents had significant comments regarding what the impacts might be from COLR relief and how they could be mitigated. Both CenturyLink and Ziply Fiber contended that there is ample competition from competitive providers in their exchanges and, as a result, that COLR relief would not result in any meaningful loss of access to voice telephony in their service territories. CenturyLink asserted that satellite service is ubiquitous in Oregon, claiming it to be functionally equivalent to landline service. According to CenturyLink, satellite providers can provide voice service to customers in areas that are high cost to serve at a fraction of the cost that ILECs can; CenturyLink acknowledged that customer rates for satellite service might be higher than their existing ILEC rates, but noted that ILECs rates are unsustainably low due to price plan caps.

Highlighting the general divide in perspectives between the large ILECs and other stakeholders, CUB noted that there are multiple reasons why traditional voice telephony customers may lack access to viable alternatives, including an inability to pay higher costs from competitive options and a lack of knowledge about alternatives to traditional ILEC voice service. COLR relief in these areas, CUB contends, would risk negative impacts for at-risk communities since voice telephony is essential to participation in modern society and access to essential public and private services. GVNW made similar comments, noting that existing state programs would be insufficient to protect customers from a loss of service in areas where there is limited competition if COLR relief were granted statewide.

CenturyLink noted that customers could be protected by phasing any COLR relief in over a period of years while supporting the transition with a combination of incentives for broadband deployment, rebalancing rates in high-cost areas (i.e., raising ILEC rates to reflect the high cost of serving those areas), and providing subsidies for low-income customers where appropriate. Ziply Fiber provided similar comments, noting that the PUC could geographically target COLR relief—by reviewing specific exchanges with only one ETC and not granting COLR relief for those exchanges—and also consider prioritizing Oregon USF subsidies for those exchanges. Ziply Fiber also recommended that the PUC should conduct a study to identify the prevalence of Oregon Lifeline customers seeking services from COLR-obligated telecommunications carriers as a first step towards identifying how public programs might mitigate any negative impacts from a transition away from COLR obligations.

All five stakeholders' written comments also emphasized the need for increased funding to help Oregonians access both voice telephony and broadband internet service, as well as educating consumers about service options. In addition, LOC noted that service provider participation in the Oregon Lifeline programs should be broadened to include other service providers like wireless and satellite in order to make up for any loss of access to ILEC service in areas that receive COLR relief. CUB also noted that ILEC should not be eligible for OUSF in areas where they are granted COLR relief since the ILECs are no longer obliged to provide the service.

Overall, these stakeholders noted that increased funding should be directed towards transitioning access from voice telephony to broadband (over which voice telephony can be provided), in areas and for demographics that are lagging behind more urban and

wealthier portions of the state since internet access is rapidly becoming the essential service that Oregonians need. GVNW commented that the recent allocation of money through SB 1603 and the federal CARES Act to improve broadband access in rural and high-cost regions of Oregon is a step in the right direction, and that time and further study might show how much the digital divide has been narrowed as a result of these funds. Depending upon the impact of the recent influx of funding for the expansion of broadband internet service, GVNW notes that additional funding might be necessary to meaningfully narrow the divide before COLR relief could be granted in areas suffering from more limited competition.

Comments on Competitive Service Availability and Comparability

The five stakeholders had more limited comments on studies and data sources about Oregon consumer access to different kinds of voice services and the reasons why consumers use the services they do. This, in and of itself, is a key data point because it confirms that there is relatively limited data available regarding Oregon consumer access to different types of voice services and how access might change in the face of any future COLR relief.

Two important reports cited by CUB were the PUC's own Local Telecommunications Competition Survey and Annual Report and the 2020 Oregon Statewide Broadband Assessment and Best Practices Study, prepared for the Oregon Business Development Department. CUB emphasized the relative importance of having access to quality voice telephony by listing several scholarly studies that assessed the complicated and expensive challenge of expanding internet access to households currently without broadband access, as well as a report on how self-isolation during the COVID pandemic was severely inhibited for low-income households because of their relative lack of broadband internet access.

Ziply Fiber noted that their testimony in their two recent price plan proceedings before the PUC, dockets UM 1677 and UM 1895, might provide useful data regarding competitive alternatives for traditional voice service in their service territory. CenturyLink referenced earlier, general data they had provided showing broad industry trends in the state and highlighting the transition towards a more competitive market structure and a loss of ILEC market share.

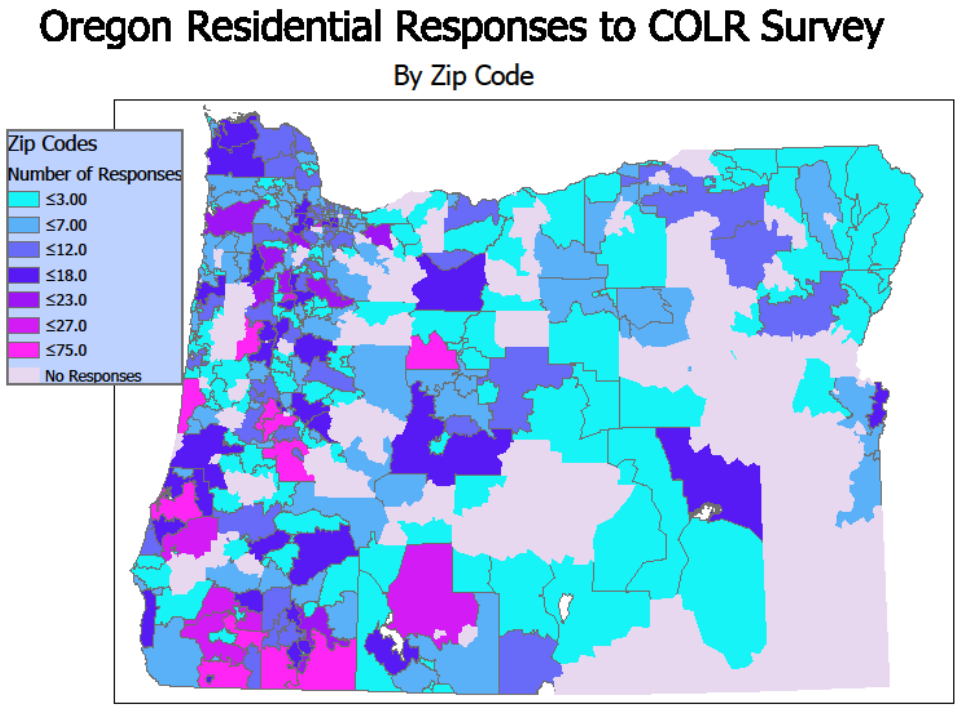
LOC provided a number of links to non-Oregon-specific resources highlighting the relative importance of quality access to broadband, the need to educate consumers about their voice and information services options, how competition in these areas is not symmetric across the country, and the implications of having a digital divide resulting in unequal access to broadband.

Customer Survey

To obtain information directly from customers on the potential impacts of COLR relief, we developed a survey that sought information about voice telephony, cellular and broadband

service, and other topics pertaining to telecommunications. The web-based survey, which had 41 questions, ran from March 11, 2020 to July 15, 2020.

We received a robust response from more than 2,600 Oregonians from all 36 Oregon counties. As explained below, the survey did not seek to obtain statistically significant results, and responses were not evenly distributed among Oregon's regions or demographics. To help track results, survey respondents were asked to provide the county and zip code in which they reside. This map shows the number of responses we received by zip code:



Overall, 49 percent of the respondents reported living in rural areas, 24 percent in small towns, 14 percent in suburban areas, and 13 percent in urban areas. The largest age group was 65 and over, which comprised 45 percent of all respondents. For household income, 59 percent of respondents reported income between $50,000 and $200,000, while 36 percent reported a household income of $50,000 or less.[39]

Methodology

This survey used convenience sampling. Convenience sampling is a specific type of non-probability sampling that relies on data collection from population members who are conveniently available to participate in a study. This sampling method involves getting participants wherever you can find them and typically wherever is convenient. In

[39] Non-responses or categories representing less than 1 percent were omitted from these calculations.

convenience sampling, no inclusion criteria are identified prior to the selection of subjects. All subjects are invited to participate.

Due to the use of this convenience sampling methodology, the results of the survey are highly vulnerable to selection bias, a high level of sampling error and outside influences beyond the control of the PUC. For this reason, the findings of this survey are not meant to be interpreted as statistically significant or representative of the population of Oregon.

Overall Results

The survey revealed four high-level results. First, there is a strong desire among certain demographics to retain traditional landline voice telephony. Roughly 42 percent of all survey respondents indicated access to traditional landline voice service was either important or very important.

Second, the important respondents placed on traditional landline voice telephony varied by geography, income, and age. Respondents living in unincorporated rural areas—particularly those with lower incomes—were more likely to find access to landline voice telephony very important as compared with those who reported living in urban or suburban areas. Individuals 65 years of age and older were the most likely to indicate that access to landline voice service was very important.

Third, although the survey indicated a high level of desire for access to cellular and broadband services, only 59 percent and 50 percent of survey respondents, respectively, indicated they were either somewhat satisfied or very satisfied with the quality and availability of cellular and broadband service in their area.

Finally, the survey showed that increased use of telecommunications and information services during the COVID-19 pandemic had negatively impacted service to customers. The survey also showed that 80 percent experienced disruptions with internet service, 39 percent had disruptions with cell service, and 16 percent had disruptions with landline services.

General Use and Availability of Services

The survey asked participants about the use and availability of various communication services. Specifically, the survey focused on landline telephone, cellular, broadband, satellite, and fixed wireless voice service.[40]

[40] To help distinguish traditional landline service from other services, and to solicit information on residential service, the survey defined landline service as:

> *A telephone service which requires a physical connection to a telecommunications network, typically by copper wires, shielded cable or by fiber optic cable.*

Landline Telephone Service

Of all respondents, 43 percent have a telephone at their residence; 42 percent reported it was either important or very important to have access to a landline; and 39 percent reported it was not important
Of those with a landline:

- 45 percent were either somewhat satisfied or very satisfied with their landline telephone service
- 61 percent indicated that they are very unlikely to drop their landline and switch exclusively to cell service in the next six months
- 57 percent either agree or strongly agree with "I rely on my landline for daily communication"
- 55 percent either agree or strongly agree with "I chose to have a landline telephone because cell phone service in my area can be unreliable"
- 26 percent indicated that their top reason for having a landline was that it was the "only telephone service available"

Cellular Phone Service

Of all respondents, 96 percent own a cell phone, and 91 percent reported it was important or very important to have access to cell service.

Of those with a cell phone:

For the purposes of this survey we are seeking data on residential service. Please do not count landlines for which you pay a business rate. Using your residential service to telecommute is considered a residential service.

In addition, the survey included a follow up question asking respondents if their landline telephone required a broadband connection. If respondents indicated *yes*, then their service was deemed VoIP rather than traditional landline service. Respondents who indicated that they likely had VoIP service were also omitted from the landline telephone service calculations. The survey provided the following definitions for cellular service and internet service:

Cell Phone Service:
A mobile phone (or smart phone) with access to a cellular radio system so it can be used over a wide area, without a physical connection to a network.

Internet Service:
A residential service that provides an always on, high-speed connection to the internet by an Internet Service Provider (ISP). This can include DSL, Cable Modem, Fiber, Fixed Wireless, Cellular and Satellite services. Examples of ISPs include but are not limited to; Comcast, CenturyLink, Frontier, Hughesnet, Viasat, Verizon Wireless, T-Mobile, AT&T, Sprint and Spectrum. There are many other companies that might also provide high-speed broadband in your area.

- 65 percent were either somewhat satisfied or very satisfied with their cell phone service
- 49 percent were either somewhat satisfied or very satisfied with their cell phone reception within their residence; 26 percent were not at all satisfied
- 59 percent were either somewhat satisfied or very satisfied with the quality and availability of cell phone service in their area

Broadband

Of all respondents, 84 percent reported they currently have broadband internet at their residence, and 98 percent indicated that access to the internet was either important or very important.

Of those with broadband access:

- 37 percent reported their internet was provided via satellite, 26 percent via cable modem, and 14 percent via Digital Subscriber Line (DSL)
- Faster internet options were far more prevalent in the Portland Metro—22 percent from the Portland Metro indicated having fiber-to-the-home
- 48 percent were either somewhat satisfied or very satisfied with their internet service; 42 percent were either somewhat dissatisfied or very dissatisfied
- 50 percent were somewhat satisfied or very satisfied with the quality and availability of internet in their area

Satellite and Fixed Wireless Voice Service

Of all respondents, 16 percent reported they or someone they know has had an experience with voice service from a satellite provider, and 13 percent reported that they or someone they know has had an experience with voice service from a fixed wireless provider.

- Of those having experience with satellite, 40 percent reported it was not comparable at all to traditional landline voice service; another 40 percent reported it is somewhat comparable
- Of those having experience with fixed wireless, 30 percent reported it was not comparable at all to traditional landline voice service; 38 percent reported it is somewhat comparable

Impacts from the COVID-19 Pandemic

The survey asked about whether the COVID-19 pandemic had impacted use of telecommunications services.

- 80 percent experienced outages or interruptions with internet service; 39 percent experienced outages or interruptions in cell service; 16 percent experienced outages or interruptions in landline services
- 62 percent reported their telecommunications services have met their needs during the pandemic; 34 percent reported that their telecommunications services have failed to meet their needs
- 47 percent were unable to perform necessary tasks during the pandemic because of the quality of their telecommunications services

Regional Differences

The survey revealed different preferences and perceptions among different regions in the state. For this analysis, we placed respondents into six geographic regions:

Central Oregon	Oregon Coast	Eastern Oregon	Portland Metro	Southern Oregon	Willamette Valley
Crook	Clatsop	Baker	Clackamas	Douglas	Benton
Deschutes	Columbia	Grant	Multnomah	Jackson	Lane
Gilliam	Coos	Harney	Washington	Josephine	Linn
Hood River	Curry	Malheur			Marion
Jefferson	Lincoln	Morrow			Polk
Klamath	Tillamook	Umatilla			Yamhill
Lake		Union			
Sherman		Wallowa			
Wasco		Wheeler			

	Central Oregon	Oregon Coast	Eastern Oregon	Portland Metro	Southern Oregon	Willamette Valley	Total
Responses	257	349	197	518	533	827	2681
Area							
Urban	6%	3%	3%	34%	5%	13%	13%
Suburban	4%	2%	2%	39%	5%	15%	14%
Small Town	29%	32%	51%	7%	24%	24%	24%
Rural	61%	63%	44%	19%	67%	48%	49%
Age (years)							
18 to 24	1%	1%	1%	1%	1%	1%	1%
25 to 29	1%	2%	2%	2%	2%	2%	2%
30 to 34	3%	3%	5%	5%	2%	4%	4%
35 to 44	9%	12%	18%	12%	10%	15%	13%
45 to 64	37%	36%	40%	32%	39%	35%	36%
65 or over	49%	46%	35%	48%	46%	44%	45%
Income							
< $25k	12%	10%	13%	12%	18%	11%	13%
$25k-50k	21%	31%	24%	19%	25%	21%	23%
$50k-100k	39%	38%	38%	32%	35%	39%	37%
$100k- $200k	23%	18%	22%	29%	16%	25%	23%
>$200,000	5%	3%	2%	8%	6%	5%	5%

Central Oregon

- 61 percent rural, 29 percent small town; 49 percent were 65+, 37 percent were 45-64, 9 percent were 35-44
- 33 percent reported an income below $50,000; 88 percent reported to own a residence
- 41 percent reported to have a landline telephone
- 56 percent agree or strongly agree with "I rely on a landline for daily communication."
- 71 percent with a landline indicated they agree or strongly agree with "I chose to have a landline telephone because cell phone service in my area can be unreliable."
- 36 percent are somewhat unsatisfied or very unsatisfied with the quality and availability of landline service in their area

Oregon Coast

- 63 percent rural, 32 percent small town; 46 percent were 65+, 36 percent were 45-64, 12 percent were 35-44
- 41 percent of reported an income below $50,000. 86 percent reported to own a residence
- 47 percent (highest) reported to have a landline telephone
- 70 percent with a landline indicating that they agree or strongly agree with "I rely on a landline for daily communication."
- 74 percent with a landline indicating that they agree or strongly agree with the statement "I chose to have a landline telephone because cell phone service in my area can be unreliable."
- 44 percent reported landline access is either important or very important.
- 39 percent (highest) are somewhat unsatisfied or very unsatisfied with the quality and availability of landline service in their area.

Eastern Oregon

- 51 percent small town, 44 percent rural; 35 percent were 65+, 40 percent were 45-64, 18 percent were 35-44
- 38 percent reported an income below $50,000; 85 percent reported to own a residence
- 44 percent reported to have a landline telephone
- 54 percent with a landline indicating that they agree or strongly agree with "I rely on a landline for daily communication."
- 76 percent (highest) with a landline indicating that they agree or strongly agree with "I chose to have a landline telephone because cell phone service in my area can be unreliable."
- 39 percent reported access to landline is important or very important
- 36 percent are somewhat unsatisfied or very unsatisfied with the quality and availability of landline service in their area

Portland Metro

- 39 percent suburban, 34 percent urban; 48 percent were 65 +, 32 percent were 45-64, 12 percent were 35-44
- 8 percent (highest) reporting an income of $200,000+; 18 percent (highest) reporting to rent
- 37 percent (lowest) reporting to have a landline
- 59 percent (lowest) with a landline indicating that they agree or strongly agree with "I rely on a landline for daily communication."

- 37 percent (lowest) with a landline indicating that they agree or strongly agree with "I chose to have a landline telephone because cell phone service in my area can be unreliable."
- 44 percent (highest) reporting access to landline telephone service is not important

Southern Oregon

- 67 percent rural, 24 percent small town; 46 percent were 65+, 39 percent were 45-64, 10 percent were 35-44
- 43 percent reported an income below $50,000; 87 percent reported owning a residence
- 46 percent (second highest) reporting to have a landline
- 73 percent (highest) with a landline indicating that they agree or strongly agree with "I rely on a landline for daily communication."
- 72 percent with a landline indicating that they agree or strongly agree with "I chose to have a landline telephone because cell phone service in my area can be unreliable."
- 46 percent (highest) reported access to landline is either important of very important
- 39 percent (highest) reported that they have a landline because it is the only telephone service available

Willamette Valley

- 48 percent rural, 24 percent small town; 44 percent were 65+, 35 percent were 45-64, 15 percent were 35-44.
- 32 percent reported an income below $50,000; 84 percent reported to own a residence
- 43 percent reported to have a landline telephone
- 61 percent with a landline indicated that they agree or strongly agree "I rely on a landline for daily communication."
- 42 percent reported landline access is either important or very important

Importance of Access to Landline Telephone Service

Survey respondents were asked to rate how important it is for them to have access to different telecommunications services. While there was near universal agreement about the importance of access to cellular and internet services—91 percent of respondents for cell phone service and 98 percent of respondents for internet service indicated access to these services is either important or very important—there were larger differences for landline telephone service. Only 42 percent of respondents indicated that access to landline telephone service was either important or very important.

This table provides a breakdown of the importance of landline access by region, area description, age, and income.[41]

Response %	Importance of Access to Landline Telephone Service			
	Very Important	Important	Somewhat Important	Not Important
Region				
Portland Metro	25%	15%	15%	43%
Valley	24%	17%	20%	37%
Coast	30%	14%	20%	33%
Southern Oregon	32%	13%	18%	35%
Central Oregon	22%	17%	16%	43%
Eastern Oregon	23%	16%	25%	35%
Area				
Urban	23%	11%	19%	44%
Suburban	20%	16%	19%	44%
Small Town	18%	17%	21%	42%
Rural	33%	16%	17%	32%
Age (years)				
18 to 24	5%	15%	30%	50%
25 to 29	16%	2%	16%	67%
30 to 34	16%	6%	21%	56%
35 to 44	13%	13%	20%	53%
45 to 64	25%	15%	19%	39%
65 or over	31%	17%	18%	31%
Income				
< $25k	32%	13%	18%	32%
$25k – 50k	29%	16%	20%	33%
$50k – 100k	23%	17%	19%	40%
$100k – 200k	20%	12%	20%	45%
>$200k	28%	9%	17%	45%

Satisfaction with Quality and Availability of Services

Respondents were asked to rate their satisfaction the quality and availability of services in their area. Of those who responded, 64 percent stated that they were either somewhat satisfied or very satisfied with the landline telephone service in their area while 59 percent stated that they were either somewhat satisfied or very satisfied with the cell phone service in their area. Despite the nearly universal agreement about the importance of

[41] Values may not sum to 100 percent as a small percentage of responses were left blank.

access to internet service, only 50 percent stated that they were either somewhat satisfied or very satisfied with the quality and availability of internet service in their area.

This table provides a breakdown of respondent's satisfaction with the quality and availability of landline telephone service. [42]

	Satisfaction with Quality and Availability of Landline Telephone Service			
	Very Satisfied	**Somewhat Satisfied**	**Somewhat Dissatisfied**	**Very Dissatisfied**
Region				
Portland Metro	38%	31%	15%	16%
Valley	30%	33%	17%	20%
Coast	24%	37%	19%	20%
Southern Oregon	27%	36%	13%	24%
Central Oregon	25%	39%	11%	24%
Eastern Oregon	28%	35%	16%	21%
Area				
Urban	35%	32%	14%	20%
Suburban	41%	35%	11%	14%
Small Town	32%	37%	14%	17%
Rural	25%	34%	18%	23%
Age (years)				
18 to 24	27%	27%	40%	7%
25 to 29	21%	43%	7%	29%
30 to 34	16%	41%	18%	24%
35 to 44	21%	35%	16%	28%
45 to 64	27%	34%	17%	22%
65 or over	33%	35%	14%	18%
Income				
< $25k	21%	29%	20%	30%
$25l – 50k	29%	38%	15%	19%
$50k to 100k	29%	34%	16%	22%
$100 – 200k	31%	35%	17%	18%
>$200k	36%	37%	10%	17%

Public Comments

Through comments provided during our public comment hearings and throughout this process, many Oregonians emphasized the need, and for some, preference for landline

[42] These results exclude respondents who indicated N/A as a response, or left the response blank.

voice telephony. Echoing many respondents in our survey, these commenters reported living in areas with few competitive options for voice service, and service reliability issues with those options that were available. These commenters found that voice telephony provided by ILECs to be the most dependable—and secure—communication choice, and recommended against any action that might lead to the discontinuation of this needed and trusted service.

Other commenters, especially those who participated in our public comment hearings, voiced strong opposition to wireless technology on the basis of health risks. These commenters were particularly concerned with the roll-out of 5G mobile technology, which promises a ten-fold increase in data transmission rates compared to current 4G networks by using a higher transmission frequency through numerous small cell antennas. The commenters claimed that the deployment of this technology will increase radiation levels and endanger all Oregonians.

The 5G opponents also cited numerous medical papers and journals citing biologic harm to human health—even at levels below the FCC's standards for radiation (which they also noted have not been updated in 20 years). They added that the Legislature recognized the potential harm of microwave radiation when it passed SB 283 (2019), requiring the Oregon Health Authority to review non-industry peer reviewed science on the impacts of microwave radiation on children in the classroom.[43] Some reported personally suffering from illnesses brought on by microwave poisoning, and explained the hardships and efforts to live in areas without cell coverage to protect their health.

Due to these health risks, the 5G opponents urged the PUC to retain all COLR policies to ensure the continued availability of landline voice telephony. The also urged that we work with state and federal policy makers to increase the capabilities of existing landline networks to promote a safe, secure, and affordable future using wired technology.

The PUC also received comments seeking the improvement of broadband access in rural Oregon. One member of the public who lives in Sherwood, Oregon, submitted a case study of his neighborhood to help demonstrate the need for increased broadband access to ensure all Oregonians have high speed access to the internet. Even though Sherwood is located in Washington County and part of the Portland Metropolitan Area, this case study shows that only two of his six neighbors had fixed-wire broadband service under the FCC's 25/3 Mbps benchmark for fixed services:

- House 1: No service available: no Fiber or DSL.
- Houses 2 – 4 : DSL available: 1 Mbps download, 0.4 Mbps upload
- Houses 5 – 6 : Fiber available: 1000 Mbps download, 35 Mbps upload[44]

This Sherwood resident also states that cellular coverage is very poor in his neighborhood and insufficient to provide broadband access. He provided the following service speeds measured with Ookla, a standard speed test often referenced by regulators:

- AT&T : 3.68 Mbps / 0.00 Mbps

[43] https://olis.leg.state.or.us/liz/2019R1/Downloads/MeasureDocument/SB283/Enrolled

[44] This commenter highlights the asymmetry of connection speed (35 Mbps upload performance and 1000 Mbps download), noting that this asymmetry is common in rural areas.

- T-Mobile: no service (despite 4G LTE reported on coverage map)
- Verizon: 0.26 Mbps / 1.53 Mbps

He also reported that broadband access via WISP and satellite are not possible alternatives. He explained that line-of-sight to a provider tower is not available and not achievable due to the adverse topology of his neighborhood. He added that, although HughesNet offers satellite internet service and that there is a subscriber in the neighborhood, the subscriber reports poor speeds and intermittent connectivity.

The Sherwood resident concludes that COLR-type obligations should be preserved with a wider remit to support broadband deployment, and that the state should to take steps to enable accelerated rural broadband deployment at lower cost via enabling access to existing conduit. He acknowledges, however, the PUC's limited authority to regulate broadband service.

Stakeholder Recommendations

In a final set of comments, discussed in a Commission workshop on August 13, 2020, stakeholders provided written recommendations for how the PUC should respond to the COLR legislation. We asked commenters to address the following questions:

- What are the key trends and policy directives regarding COLR and how do they impact whether COLR relief is warranted?
- What would implementing COLR relief look like?
- Would COLR relief impact an ILEC's core network and interconnection to that network or service to non-residential customers?
- Would COLR relief impact telecommunication platforms that enable alternative telecommunication service?
- Would COLR relief impact safety and reliability?
- What changes to existing laws, rules, and policies would be required to implement COLR relief?

In response, six stakeholders submitted recommendations, with CenturyLink and Ziply Fiber filing joint recommendations. The other five stakeholders that submitted comments were CUB, GVNW, LOC, OCTA, and the City of Corvallis.

All stakeholders recommended relatively cautious approaches to COLR relief. None recommended unmitigated elimination of all COLR obligations.

CenturyLink and Ziply Fiber, the two entities experiencing the greatest negative impacts from COLR obligations, were the most aggressive in recommending COLR relief. They justified their position by noting that industry trends have made the COLR obligation, in its current form, economically untenable for the state's large ILECs. They argued that the regulatory compact that supported the COLR obligation has been broken for nearly 25 years, due to the presence of competition, and that applying the COLR obligation to ILECs that serve fewer customers than competitive providers in many regions of the state is increasingly unfair. With other carriers authorized to provide service in their service territories, CenturyLink and Ziply Fiber question the continuing legal validity of COLR obligations premised on a grant of allocated service territory, noting that ORS 759.500(1) defines "allocated territory" as a geographic area for which "no more than one person [has] the authority to provide local exchange telecommunications service."

CenturyLink and Ziply Fiber also argued that current COLR policies are detrimental to the industry, as well as to low-income and rural telecommunication consumers. They argue that regulation that maintains uneconomically low prices in high-cost of service areas stagnates the telecommunication service market by discouraging both new competition that cannot compete with artificially low prices and new investments in technology and infrastructure to improve the quality of service.

CenturyLink and Ziply Fiber did not provide specific recommendations for COLR relief, but instead focused on putting Oregon on a pathway to ease these restrictions for the large ILECs. These two ILECs touched on various potential areas for relief, from eliminating the obligation where competitive options exist, to having another competitive provider assume the COLR obligation, to making further modifications to the regulatory framework such as increased ability for variable pricing. CenturyLink and Ziply Fiber's industry trend arguments in favor of granting COLR relief was not squarely addressed by any other commenters.

CenturyLink and Ziply Fiber emphasized that granting COLR relief does not have to result in a loss of service for customers located in high-cost areas with limited competition. Allowing increased rates for stand-alone voice service in high-cost/low-competition areas, increasing subsidies, or a combination of the two will, according to the large ILECs, help make serving these areas economically sustainable and help increase the availability of competition, allowing COLR relief to expand into these areas. In addition, service for new customers could be determined by assessing customer access to competitive services, the affordability of providing service, and access to explicit subsidies targeted at customers based on need and location.

CenturyLink and Ziply Fiber also stated that COLR relief would not result in the wholesale abandonment of ILEC service to exchanges in the state nor would it have an impact on competitor services that rely on existing ILEC network infrastructure. Instead, the large ILECs argued that COLR relief would result in a paring back of service to core network assets in areas where an alternative provider assumed COLR responsibility.

CUB acknowledged that the telecommunications industry has changed significantly over the last two decades and is poised to change further in the coming years. As a result, CUB agrees that policy changes are needed to continue to provide reasonable regulatory oversight to the industry and provide adequate consumer protections. But, rather than recommending changes to the COLR obligation at this time, CUB's recommendations focused on the need for further investigation before COLR relief is implemented, highlighting the uncertainty that continues to surround how telecommunication markets might change in response to the removal of a COLR obligation as well as what solutions might effectively mitigate any negative impacts. CUB's comments argued that the COLR investigation should continue by focusing on closing the data gap in relation to three questions identified in HB 3065:

- The number and geographic locations of customers whose individual circumstances may impact access to telecommunications services
- The number and geographic locations of customers with access to fewer than two terrestrial-based service alternatives
- The comparability of wireless internet service providers and satellite providers

CUB also noted that the PUC should study the market impacts that result from the recent passage of SB 1603, which allocates additional funding to Oregon USF for the expansion of broadband internet access in the state.

GVNW also expressed concern that little is known about how many people would be impacted by potential COLR relief and to what degree. GVNW renewed its recommendation that the PUC either wait until data can be provided quantifying the impact of removing the COLR obligation, or study the market impacts from the CARES Act and SB 1603 funding for the expansion of rural broadband internet service over the next 24 months before making recommendations on moving forward with COLR relief. Alternatively, GVNW recommended that any COLR relief be granted only for ILECs with more than 50,000 customers.

OCTA's limited comments focused on their position that ILECs that receive COLR relief for an area of Oregon no longer be eligible to receive funds through OUSF, Lifeline, or OTAP because each program ties their funding to an ILEC's commitment to service all requesting customers within the area. CenturyLink and Ziply Fiber did acknowledge that eliminating the COLR obligation would mean that an ILEC would no longer be eligible to receive OUSF support for locations in which the COLR obligation no longer existed. OCTA did not make a recommendation on whether statutes should be changed to address this funding issue, but other stakeholder comments did highlight that provider participation in these programs would need to be broadened, not narrowed, in order to mitigate the expected negative impacts to low-income and other at-risk consumer groups from any COLR relief reductions in service.

No stakeholder expressed significant concerns about COLR relief impacting public safety and reliability. So long as other telecommunication services were available and made affordable for Oregon consumers, CenturyLink and Ziply Fiber did not anticipate any impacts to safety and reliability for Oregonians and their public services as a result of a phased COLR relief program.

LOC's comments focused on the need to change the definition of telecommunications to include broadband internet as an essential service, because voice telephony is no longer sufficient to be an effective participant in current and future society. As the telecommunications industry shifts, LOC recommended that the PUC explore measures to ensure that existing network infrastructure is not hastily abandoned and that service providers have the funds necessary to continue to maintain and upgrade equipment so that service quality improves throughout the state. LOC would like to see future PUC regulatory structures focused on prioritizing service quality, investing and incentivizing access to service so that all have internet connectivity, and providing educational resources to consumers so they can make informed choices.

The City of Corvallis' comments acknowledged that existing COLR regulation is increasingly out-of-step with the broader industry as voice-only telephony service becomes antiquated, but also noted that voice service continues to be important to many low-income, rural, and other at-risk customers who deserve effective consumer protections. In order to address this challenge, Corvallis recommended that broader telecommunication regulatory reform is needed and that the PUC should champion changing telecommunication regulation to be focused on the services being provided rather than the technologies being used. More immediately, Corvallis recommends that additional funding be raised and allocated to

incentivize service expansion and competition and that all telecommunication providers contribute to USF and OUSF and be eligible for low-income subsidies. The City of Corvallis argued that the traditional COLR obligation could be removed once all the customers in an area have access to broadband internet or it could be voluntarily transferred to wireless service providers. Corvallis also acknowledged that these recommendations may be inconsistent with recent FCC rulings.

Findings and Discussion

In HB 3065, the Legislature directed the PUC to investigate the continuing relevance of COLR obligations for voice telephony. Once, customers were served exclusively by ILECs. Today, voice telephony can be obtained through means of landline, wireless, cable, fixed WISP, or internet-based providers from a variety of carriers. These changes in the voice telephony landscape have raised questions whether COLR policies remain necessary in areas where competition has given users a choice of carriers and technologies, and whether COLR obligations, if necessary, should continue to be borne solely by ILECs.

Increases in competition have led some states to modify or eliminate COLR requirements,[45] a path that Oregon's large ILEC carriers believe Oregon should follow. Both CenturyLink and Ziply Fiber contend that the regulatory compact is broken, and seek changes to eliminate this obligation in areas where they believe that competition and new technologies have removed the need for a COLR requirement. Smaller ILECs seek no changes to the status quo, arguing that any changes to COLR policies should be limited to large ILECs.

Other stakeholders, including CUB, GVNW, LOC, and the City of Corvallis, urge caution. Citing uncertainty about the potential impacts of COLR relief, these stakeholders recommend further investigation before moving forward with COLR relief, recommending that the PUC either wait until data can quantify the impact of removing the COLR obligation, or until the market impacts from the CARES Act and SB 1603 funding for the expansion of rural broadband internet service are understood over the next 24 months.

Although the Legislature's request focuses on COLR's legacy purpose of helping ensure all Oregonians have access to voice telephony, it also raises the broader policy issue of whether a COLR-type requirement should be created to help ensure broadband internet access. As society becomes increasingly dependent on the internet, customer needs are shifting away from traditional voice telephony and towards broadband access. This shift is reflected in our Customer Survey, where 98 percent of respondents reported that access to the internet was important or very important, and only 42 percent reporting the same for voice landline service.

Access to voice telephony and the internet are inter-related and mutually supporting. The COLR obligation for voice telephony helped create and maintain the underlying network that first brought internet access to many Oregonians. Moreover, policies and programs such as universal service funds used to support COLR obligations are expanding their focus beyond voice telephony and now are also providing support for broadband internet access. Broadband internet access, in turn, supports access to voice telephony, which now can be provided via VoIP.

[45] The National Regulatory Research Institute (NRRI), which supports the work of state regulatory commissions, provided an overview of actions taken by other states with respect to COLR obligations in its July 2016 report entitled *Carrier of Last Resort: Anachronism or Necessity,?* And available at the following link: https://www.oregon.gov/puc/utilities/Documents/COLR-NRRI-White-Paper.pdf

In light of these interrelationships, we respond to the Legislature's inquiry with findings that address both COLR's legacy role to ensure access to voice telephony, as well as the potential adaptation of COLR and other policies to support broadband access to modern communications networks.

Finding #1: Communications are of Vital Importance to Oregonians

Throughout this process, all involved recognized the importance of the ability for Oregonians to communicate. This importance was heightened by the COVID-19 pandemic, which was noted by many stakeholders in their comments and addressed in and made part of our Customer Survey.

The unprecedented and catastrophic wildfires that hit Oregon the week before this report was due added an acute and heartbreaking reminder of the need for the ability to communicate. In an era where there are so many diverse mediums that individuals can use to communicate, we often take this ability for granted. But as we have seen, the ability to utilize these various options may be limited under certain circumstances—tragically at times when communications are most crucial.

In light of these events that will continue to impact Oregon beyond 2020, we felt it necessary and prudent to explicitly find that communications are of vital importance to Oregonians.

Finding #2: Landline Voice Telephony Remains Important to Many Oregonians

Despite the increase in cellular and other calling options and the significant reductions in the number of landline customers over the past two decades, there continues to be approximately 250,000 residential landlines in Oregon. In our Customer Survey, 43 percent of respondents reported having a landline in their home, with 61 percent of those respondents indicating they are very unlikely to drop their landline and switch exclusively to cell service in the next six months.

There are many reasons these customers maintain a landline, but primarily their reasons relate to the lack of competitive options, service quality, health concerns, or personal choice. In our survey, 26 percent of respondents indicated that their top reason for having a landline was that it was the "only telephone service available," and 55 percent reported they had a landline because cell phone service in their area was unreliable. Our survey also showed a strong desire among certain demographics—particularly rural, low income, and the elderly—to retain traditional landline voice telephony. In public comments, some residents indicated a strong desire for landline service due to health concerns related to cellular service.

Although we recognize that our Customer Survey and public comment process do not provide statistically significant data, our COLR process revealed few alternatives for gathering the data necessary to understand whether those who rely on landline voice telephony supported by the COLR obligation truly have access to comparable alternatives.

Finding #3: COLR Obligations for Landline Voice Telephony Remain Relevant Today

Competition has increased options for voice telephony, but has not eliminated the need for a COLR. If COLR requirements were abandoned, a certain—but unknown—number of Oregon residents might not have access to voice telephony. Others would lose access to their preferred wireline voice telephony. Based on the limited data available to the PUC, we conclude that eliminating the COLR obligation statewide would risk leaving a material number of Oregonians behind.

Competitive business models do not ensure all customers are served. Competitive business models are based on an unregulated service provider's desire to enter a market. Generally, these competitive providers target high density population areas, and are under no obligation to serve remote or high-cost areas. We have witnessed this in the local landline market, where our 2019 Local Telecommunications Survey showed there is robust competition for higher revenue-generating business customers but few competitive choices for residential customers. Indeed, more than a quarter of respondents to our Customer Survey reported that landline service was the "only telephone service available." With no COLR obligations, many customers living in rural and other areas that are high cost to serve may have no access to voice telephony.
In addition, cellular, satellite, and WISP telephony are not yet full substitutes for landline service. The availability and quality of cellular services is negatively impacted by geography, vegetation, weather, and other factors. While 96 percent of respondents to our Customer Survey reported owning a cell phone, 26 percent were not at all satisfied with the quality and availability of cell phone service in their area. Moreover, while the use and reliability of satellite and WISP telephony has improved in recent years, few are familiar with these technologies. Of the small minority with experience with satellite and WISP service, 40 percent and 30 percent, respectively, reported they were not comparable at all to wireline phone service.

Moreover, it is important to note that, even in areas where robust voice telephony competition exists, most of the competitive providers are subject to little regulatory oversight, and may not have any obligations to continue to provide service to a customer. Similar to the decisions of what markets to enter, decisions on what markets to exit are based on economic choices that are generally not affected by any COLR-type obligation. Simply put, there are little to no safeguards to ensure the continuity of service to all customers currently receiving competitive services.

Finally, the elimination of COLR obligations might deprive some Oregonians of access to wireline-based voice telephony that they prefer due to health concerns related to cellular networks.

Finding #4: COLR Policies Could be Updated to Reflect Competition

Oregon has responded to the introduction of competition in voice telephony in several ways. Most notably, in 2002, the Legislature authorized the PUC to adopt an alternative form of regulation for ILECs, and currently both CenturyLink and Ziply Fiber operate under

price plans that allows these carriers greater ability to react to changing market conditions and reduce regulatory burdens on the carriers. In addition, other amendments to statutes governing ILECs have eased or eliminated regulatory oversight. Under ORS 759.195, ILECs may file a price list containing the price and terms for certain services, and the price list or any revision of the price list become effective upon filing with no action by the PUC. Under ORS 759.052(2), the PUC may exempt a telecommunications service from regulation, upon a finding that price and service competition exists.

Although these policy changes have helped update the regulatory compact, it is undeniable that ILECs, which assumed the COLR obligations in exchange for allocated service territory, are no longer sole providers of voice telephony. In fact, they are no longer the dominate provider in many areas of the state. Oregon-wide, the number of residential landline customers in Oregon has declined by two-thirds between 2008 and 2018. With these losses, cellular and cable voice providers now serve more business and residential voice lines than ILECs. ILECs only retain a majority share of residential landlines with 58 percent of market, while competitive providers serve 42 percent. ILEC revenues have correspondingly dropped—by 60 percent from their peak for CenturyLink and Ziply Fiber, by 47 percent for small investor-owned ILECs, and by 23 percent for cooperatives.

In areas of the state where the presence of competitive providers is strong, such as some urban areas, it is possible that ILECs could be relieved of the COLR obligations with minimal impacts to consumers' access to voice telephony. Just under 40 percent of respondents to our Customer Survey reported it was *not* important to have access to landline service. The Legislature could explore changes to the COLR obligation where it can be found, based on robust and reliable data, that sufficient competition exists to ensure access to voice telephony that is comparable in terms of quality and price.

Similarly, an ILEC could be relieved of the obligation where a competitive provider assumes the role of a COLR. Some stakeholders discussed the possibility of transferring the COLR obligation in a particular area to a competitive provider. Others advocated for a technology-neutral COLR obligation that would ensure access to modern communication networks. These suggestions reflect both a willingness to consider updates to the COLR obligation for traditional voice telephony, and a concern that relying solely on competition, without any obligation to provide some form of reliable, accessible communications service to all Oregonians, could leave some parts of the state and some Oregonians behind. Jurisdictional hurdles to the concept of transferring COLR obligations are discussed below.

Complementary approaches other than adjusting the COLR obligation could also be considered. Large ILECs have argued that adapting price plans to allow customer rates in high cost areas to come closer to the cost of serving those areas would improve competition and relieve some burden on ILECs. Interactions between such changes and the allocation of funding ILECs receive to support system investments and low-income access in those areas would be important to consider.

Finding #5: Numerous Challenges and Complications Exist Facing COLR Reform

Whatever form of COLR relief is considered, numerous challenges and complications exist. At the outset, the data needed to decide whether sufficient comparable competitive services exists in particular areas is difficult to collect, and is subject to becoming stale in a short period of time. The PUC has little to no ability to obtain proprietary information from unregulated competitive providers as to the specific availability of services provided. Moreover, as noted, the availability and quality of non-terrestrial based services is highly dependent upon geography, vegetation, weather, and other factors, and is difficult to determine whether specific services are actually available in various parts of Oregon without a granular review. Even if such data were obtained, it would merely reflect a snapshot of current conditions; evolving market conditions could impact the continuity of competitive services.

In addition to information barriers, regulatory and jurisdictional barriers limit Oregon's ability to impose COLR obligations on other providers. The state has jurisdiction over intrastate voice telephony and, through the PUC, regulates ILECs, including the assignment as a COLR. The state also has the ability to condition COLR obligations on providers receiving Oregon USF support (but not those only receiving federal USF). The PUC does have some regulatory authority over CLECs, and does impose obligations to offer service in designated areas, but these obligations do not match the COLR obligations imposed on ILECs.

The state has little to no regulatory authority to impose COLR obligations on other competitive telecommunications providers. The FCC generally regulates cellular, satellite, and WISP providers, and has claimed jurisdiction over internet access as an "advanced telecommunications service." In addition to federal regulation, local governments also generally regulate cable providers through franchise and other agreements.

Finding #6: The Legislature Should be Cautious with COLR Reform

All stakeholders, including CenturyLink and Ziply Fiber, recommended relatively cautious approaches to COLR reform, with none recommending unmitigated removal of all COLR obligations. Many stakeholders, including CUB, contend that it is premature to provide any form of COLR relief until there is more firm and specific data on the availability of alternative and comparable service for all Oregonians.[46] Others, like GVNW, recommended the Legislature pause any discussion of COLR relief until more information is known about the impacts of the recent allocation of money through SB 1603 and the federal CARES Act to improve broadband access in rural and high-cost regions of Oregon.

[46] We highlight that the FCC approved a new broadband data collection framework on July 16, 2020, which will provide additional data to inform policymakers.
https://www.federalregister.gov/documents/2020/08/18/2020-16356/establishing-the-digital-opportunity-data-collection-modernizing-the-fcc-form-477-data-program

We too recommend a cautious approach. If the Legislature would like to advance regulatory updates to address competition while protecting the public interest, one path forward would be to provide the PUC authority to waive COLR obligations during consideration of a large ILEC's price plan. As noted, the price plan statute, codified in ORS 759.255, authorizes the PUC to adopt rates for ILECs without regard to cost of service. Section (5) of that statute provides the PUC with authority to waive certain statutory provisions to reduce regulatory burdens as part of a price plan, but not those related to COLR obligations.[47]

Through a minor amendment to ORS 759.255(5), the Legislature could allow the PUC to consider, in the context of a price plan, whether a public interest showing has been made to justify a waiver of a COLR obligation under ORS 759.506(1) for specified service areas. This would allow an ILEC to propose, as part of a price plan, to be relieved of COLR obligations for a requested area. The filing would be processed as a contested case, thus allowing the PUC Staff, consumer groups, and other interested parties to participate and negotiate informally or litigate through the filing of written testimony and evidentiary hearings.

Under this scenario, the PUC would ultimately determine whether a sufficient showing has been made to provide any COLR relief requested by the ILEC. To maintain the protections that the COLR obligations provide, the ILECs would need to provide robust, reliable evidence that affected customers would have sufficient competitive and comparable alternatives to ensure any COLR relief would be in the public interest.

We acknowledge this showing may present challenges for the ILECs to demonstrate given the difficultly, discussed above, with regard to the accessibility of this information. State and federal efforts to generate improved public data would help support a transition to COLR reform.

Finding #7: Complimentary Programs Must be Considered as Part of COLR Reform

As the Legislature considers potential modifications to COLR obligations, it is important to recognize that other programs support and reinforce the goal to ensure the availability of voice telephony. In addressing any modification to COLR requirements, these other programs, directed at both the provider of telecommunications services and the end user, would also need to be considered.

Both the state and federal governments administer state universal service fund programs to help subsidize the provision of service to rural areas, low-income consumers, residents of Tribal lands, schools and libraries, and rural health care providers. As noted, small ILECs

[47]ORS 759.255(5) provides: "If the commission approves a plan under subsection (1) of this section, the commission may waive, in whole or in part, compliance by the telecommunications utility with ORS 759.120 (Form and manner of accounts prescribed by commission), 759.125 (Records and accounts prescribed by commission), 759.130 (Closing date of accounts), 759.135 (Depreciation accounts), 759.180 (Hearing on reasonableness of rates) to 759.205 (Conformance of rates charged with schedule), 759.215 (Public access to schedules), 759.220 (Joint rates and classifications), 759.285 (Charging rates based on cost of property not presently providing service) and 759.300 ("Stocks" defined) to 759.393."

are increasingly reliant on these funding mechanisms to recover the rising costs to serve customers and to ensure services in rural areas are reasonably comparable to urban areas of the state.

Oregon has the authority to set contribution amounts to help ensure adequate support for high cost service areas.[48] As COLR and other policies evolve, modifications to Oregon USF support could be focused on ensuring that funds are provided on a per high-cost line basis. Moreover, if COLR relief is provided, an ILEC should be ineligible to receive any universal support for services for areas they are no longer required to serve.[49]

Another supporting program to ensure access to basic telecommunications services is Oregon Lifeline, a federal and state government program that reduces the monthly cost of a telephone (or broadband service) for qualifying low-income Oregon households. The designation of a COLR to a particular service area, or the availability of competitive telecommunications services, does not necessarily mean that the service is accessible to low income Oregonians. Particularly if the state moves toward exclusive reliance on competitive business models in some areas, Oregon Lifeline and other programs should also be reviewed to ensure accessibility of those services.

Finding #8: Promoting Universal Broadband Access Promotes Universal Voice Service

As our society becomes increasingly dependent on the internet, customer needs have generally shifted away from voice telephony and towards broadband. Today, high-speed internet access is becoming a necessity for work, education, commerce, social engagement, entertainment, and other aspects of society. This reliance has been heightened during the COVID-19 pandemic, when vastly more Oregonians have been spending their days on-line. This shift is reflected in our Customer Survey, where 98 percent of respondents reported that access to the internet was important or very important. For many, voice is but one of many services provided by a broadband network.

COLR obligations are currently designed to promote access to voice telephony, and only indirectly support the transition to broadband. COLR obligations ensure investments are made and facilities are maintained to provide voice telephony, but do not necessarily promote development of broadband infrastructure. Universal service funds are used to support these COLR obligations, and while many ILECs have used USF funds to build

[48] The Oregon USF surcharge rate that is currently capped by statute at 6 percent.

[49] We also note that funding for high cost service areas could potentially be addressed by revisiting the PUC's policy of statewide average pricing. This policy, which requires an ILEC charge all customers similar rates across all service territories, helps ensure that telecommunications services are reasonably comparable in quality and price in all areas of the state. Such changes, however, could result in requiring high-cost customers to pay more of the cost to serve them.

networks capable of providing broadband internet access, others have used the funds primarily to maintain legacy voice networks.[50]

Examining the continuing relevance of COLR obligations is complicated by the fact that our state and our nation have not fully completed the transition to universal broadband. Meeting the broader policy goal of universal access to broadband internet access would effectively moot the need for a COLR obligation for voice telephony, as broadband service can provide both information and telecommunications services, including voice.

Work is needed to promote broadband access, because many areas of Oregon lack adequate access to broadband. As noted, the 2020 Oregon Statewide Broadband Assessment and Best Practices Study found that a quarter of Oregonians live in areas that are unconnected, unserved, underserved, or have older technologies that will not be able to meet the digital demands of the very near future. Most of these Oregonians live in rural areas of the state, where customer access to and satisfaction with broadband lag behind urban areas.

Ideally, telecommunications and information services policies, including COLR, would be unified and aligned to promote infrastructure investment in broadband service. Such efforts could include designating broadband as part of the universal service goals, updating polices to focus on broadband service rather than technology used to provide the service, establishing a common regulatory framework for all providers of broadband service, and linking the receipt of state and federal universal service support and other funds to obligation to support and advance broadband internet access. A complicated jurisdictional landscape, however, presents barriers to achieving these goals.

To help promote broadband access, many stakeholders and public commenters also recommended that Oregon adopt a COLR-like obligation for broadband carriers. The obligation would be similar to the current COLR obligations for voice telephony, where a broadband provider would be granted an exclusive service territory and that carrier would be required to deliver service to all those that request it. To accelerate rural broadband deployment at lower cost, these proposals would require that broadband competitors be granted access to existing conduit, and require non-discriminatory interconnection to allow competitors the ability to extend existing broadband service from remote sites to adjacent properties in need of connection. Although a COLR-like requirement for broadband might benefit Oregonians, again, a complicated jurisdictional landscape presents barriers.

Finding #9: There are Numerous Challenges to Achieving Universal Broadband Access

Many challenges exist with unifying the treatment of providers that are subject to different regulations but increasingly providing homogeneous services towards a goal of ubiquitous broadband access. As noted, Oregon's regulatory authority is primarily limited to voice

[50] As noted, the 2020 Legislature recently expanded Oregon USF funding sources and have directed up to $5 million annually be directed to broadband development.

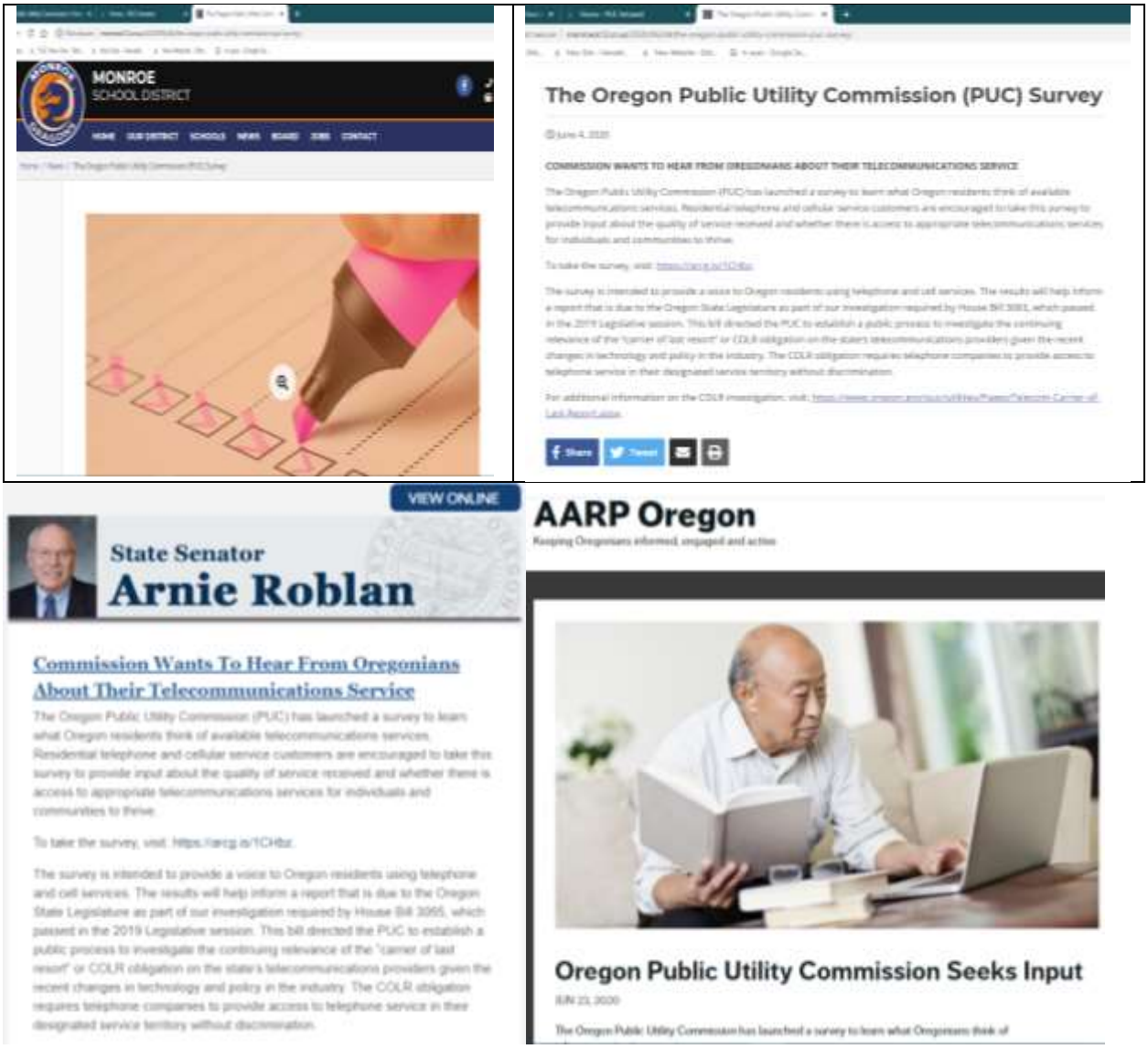
telephony provided by ILECs. Broadband is currently classified as an "advanced telecommunications service" and subject to exclusive jurisdiction of the FCC. Compounding this limitation is the fact that federal broadband policy currently favors market competition over regulation, which does not guarantee service to all customers.

Without some action by the FCC providing states greater authority to regulate broadband access, it is questionable whether Oregon could create a territory allocation scheme for broadband carriers and assign COLR obligations to those carriers granted territory. The commenters recognized these limitations in making their recommendations, noting that many proposed actions favored by local policy makers would likely be at odds with the FCC.

Despite these challenges, Oregon has taken numerous steps to help promote broadband access through the creation of Oregon Broadband Office and the recent allocation of CARES monies to support new broadband infrastructure. In addition, through SB 1603, the Legislature expanded the funding base for the Oregon USF, and directed that up to $5 million be transferred to the Oregon Business Development Department for broadband service infrastructure projects. In the absence of direct regulatory authority, Oregon can continue to explore the use of these and other incentives to move toward universal access to broadband in the state.

September 15, 2020

Appendix A: Examples of Customer Survey Promotions




AARP
Help Out Your Public Utility Commission
How is Oregon's phone service?


Oregon Public Utility Commission (PUC) @PUCOregon · May 11
Calling all Oregon residential telephone and cellular service customers! Tell us about the quality of your service and whether you have access to the services you need. Take our survey at: arcg.is/1CHbz #PUCOregon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HOME
SCHOOLS
NEWS
EPORTO SPORTS
EVENTS
MEDIA
CALENDAR
Survey on Telecommunications Service in Oregon, May 12


Commission Wants To Hear From Oregonians About Their Telecommunications Service


Gorge Country Media
Y102
KLCK 1400
Commission Launches Survey to Hear What Oregon Residents Think About Their Telecommunications Service


AOC

September 15, 2020

Appendix B – Glossary of Terms & Acronyms

AARP	American Association of Retired Persons
CAPO	Community Action Partnership of Oregon
CARES Act	Coronavirus Aid, Relief, and Economic Security Act of 2020
CaTV	Cable TV
CLEC	Competitive Local Exchange Carrier
COLR	Carrier of Last Resort
CUB	Oregon Citizens' Utility Board
DSL	Digital-Subscriber Line
ETC	Eligible Telecommunications Carrier
ETP	Eligible Telecommunications Provider
FCC	Federal Communications Commission
GVNW	GVNW Consulting
HB	House Bill
ILEC	Incumbent Local Exchange Carrier
LOC	League of Oregon Cities
Mbps	Megabits Per Second
NAACP	National Association of the Advancement of Colored People
NEEA	Northwest Energy Efficiency Alliance
OCTA	Oregon Cable Telecommunications Association
ORS	Oregon Revised Statutes
PUC	Oregon Public Utility Commission
RDOF	Rural Digital Opportunity Fund
UNE	Unbundled Network Elements
USF	Universal Service Fund
VoIP	Voice Over Internet Protocol
WISP	Wireless Internet Service Provider