FORMER REP LORI KUECHLER

House District 52

Prepared December, 2022

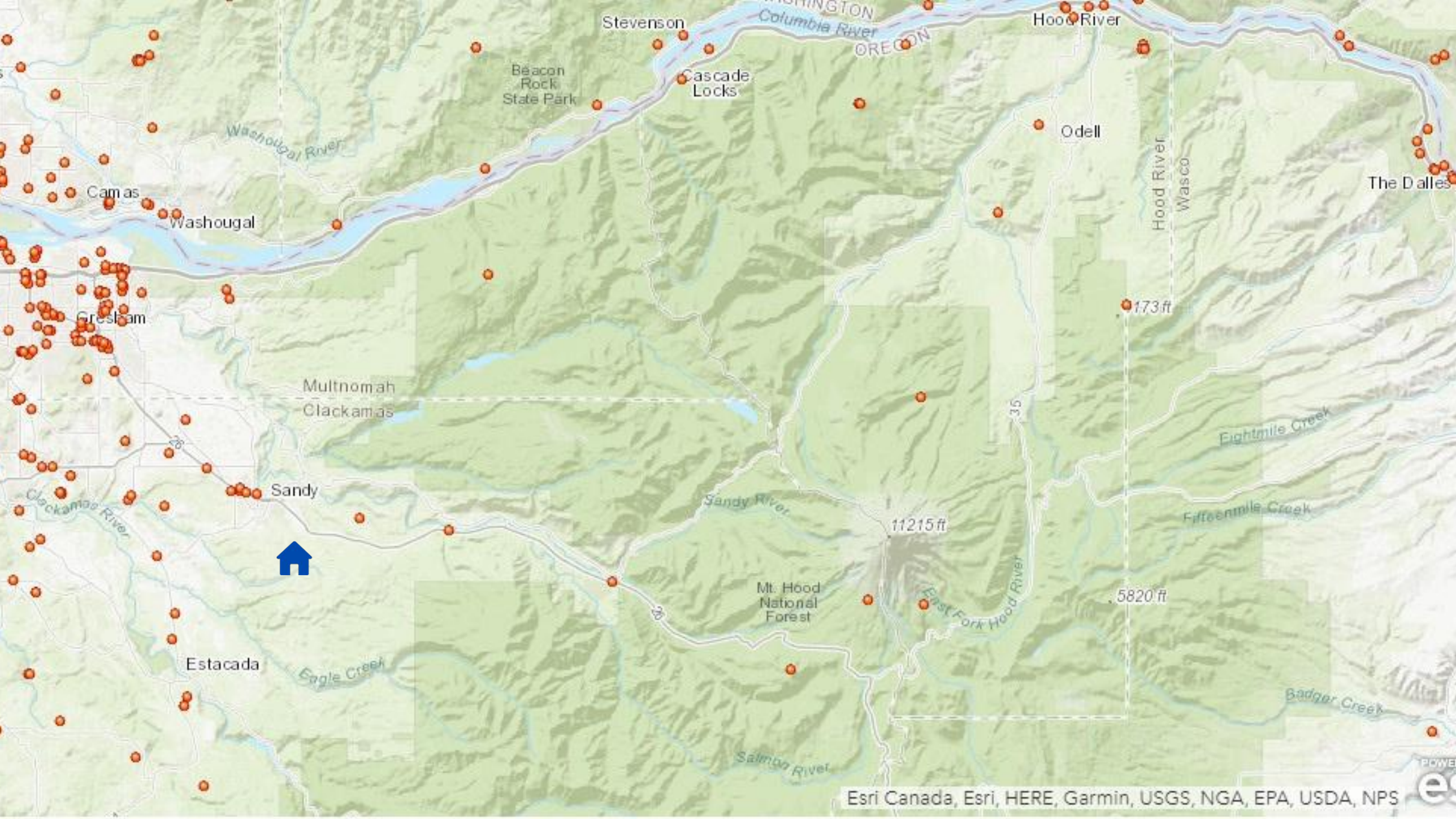
EMERGENCY COMMUNICATIONS DURING POWER OUTAGES

PERSONAL EXPERIENCE...

During a recent PGE-initiated power shutdown (PSPO or Public Safety Power Outage) necessitated by low humidity, high wind, and extreme wildfire danger – a neighbor's home caught fire.

No one in the neighborhood had sufficient cell coverage to call the fire department and the home burned completely before a call could be made and emergency responders could arrive.

The conversations between neighbors that day inspired Rep. Kuechler to begin to investigate a legislative solution.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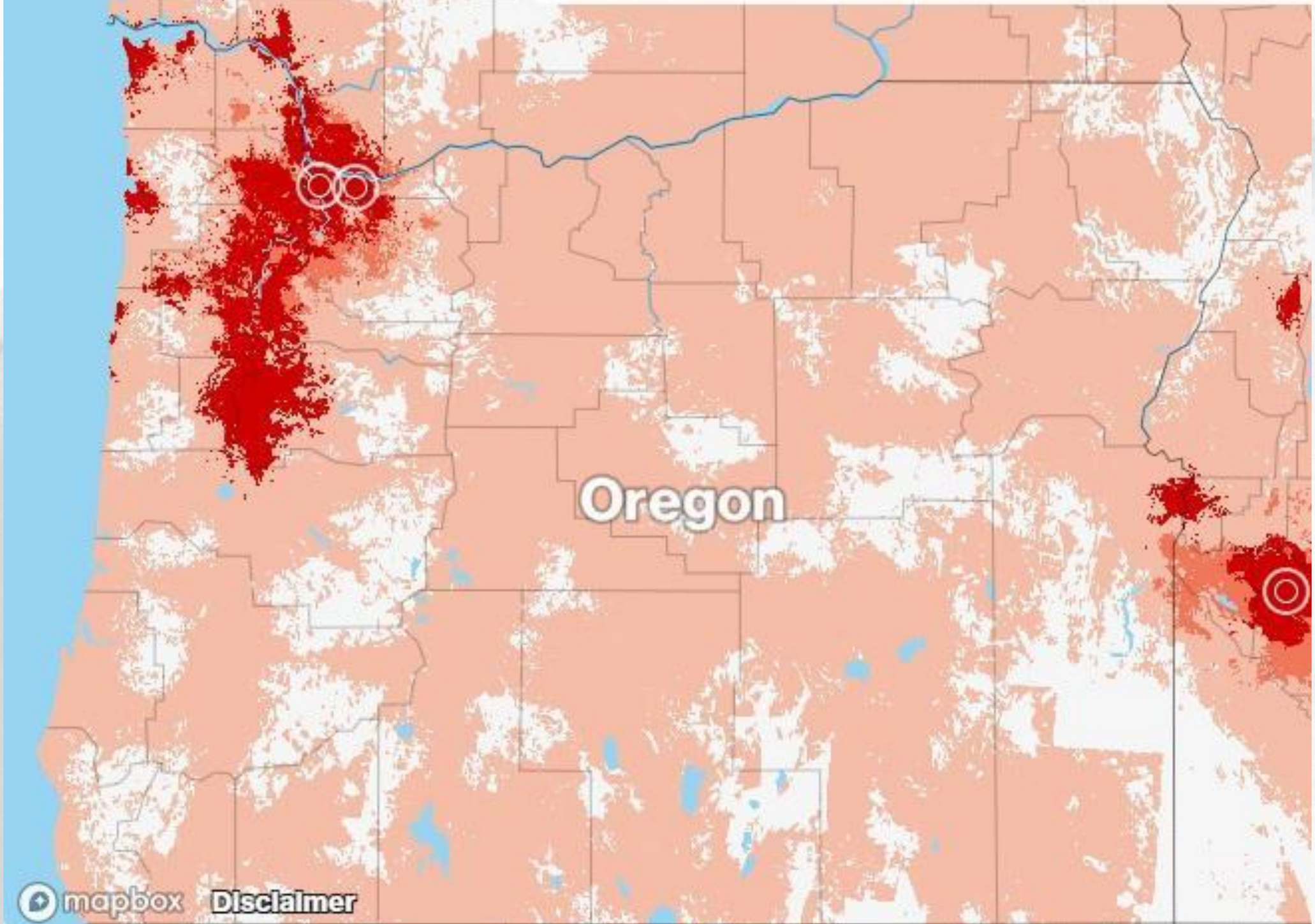
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A STATEWIDE ISSUE

INCONSISTENT COVERAGE

Under normal circumstances, rural Oregon residents expect to experience inconsistent cell tower-based phone coverage.

RESIDENTIAL L.E.C.

Most households manage the situation through Wi-Fi hubs connected to their residential broadband via Local Exchange Carriers (LEC).

POWER OUTAGES

In an emergency when the power is out, rural residents report having to walk/run or drive to a location where the “bars” on their phone indicate they may be able to call 911.

EMERGENCY NOTIFICATIONS

In a power outage, many cell phones cannot receive emergency evacuation notices and/or official updates from governmental emergency management agencies due to insufficient cell coverage.

The FCC and a 25-Years Young Telecommunication Revolution

HISTORICAL CONTEXT

The electricity-dependent telecommunication infrastructure is a result of the evolution of the industry over the past 25 years. .

- Previous telephone communication depended upon copper-wire networks which are less reliant upon the electrical grid.
- In 2000, almost every U.S. household had a copper-wire landline phone
- Property owners and telecommunications companies were encoded by law to provide telephone lines and access.

via Aris Technica / Associated Press

COPPER WIRE AND NEXT-GEN SERVICES

REGULATIONS

In August 2022, The FCC granted relief to telecommunications providers by relieving them of “outdated, burdensome phone industry regulations”.

LANDLINES

In 2019 the FCC stated that of the 455 million active voice subscriptions in the US only 55.8 million were still using traditional landlines.

PHASED OUT

The order not only released carriers from their obligation to maintain “antiquated” lines but also mandated the complete replacement of copper-based services with “alternative voice service arrangements” by August 2nd, 2022.

via FCC.gov

COPPER WIRE AND NEXT-GEN SERVICES

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MAINTENANCE

The FCC argued in 2019 that FCC Order 19-72 granted certain legacy telephone companies’ “relief” from maintenance obligations that were part of the Telecommunications Act of 1996 which “no longer served their intended purpose.”

The two removed requirements were:

- (1) a requirement they offer competitors “analog voice-grade copper loops” on an unbundled basis at regulated rates and
- (2) a requirement they offer legacy services for resale at regulated rates.

via FCC.gov

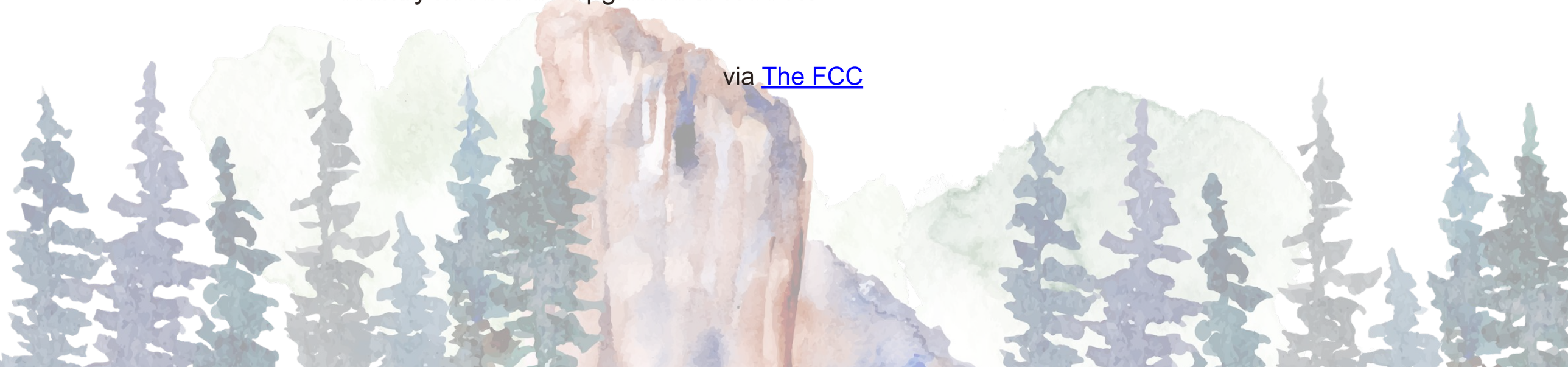
NEXT GENERATION 911

Systems Legislation

Next Generation 911 (commonly referred to as NG911) is a digital, internet protocol (IP)-based system that will replace the analog 911 infrastructure that's been in place for decades.

Because most 911 systems were originally built using analog rather than digital technologies, PSAPs, or Public Safety Answering Points, across the country need to be upgraded to NG911.

via The FCC



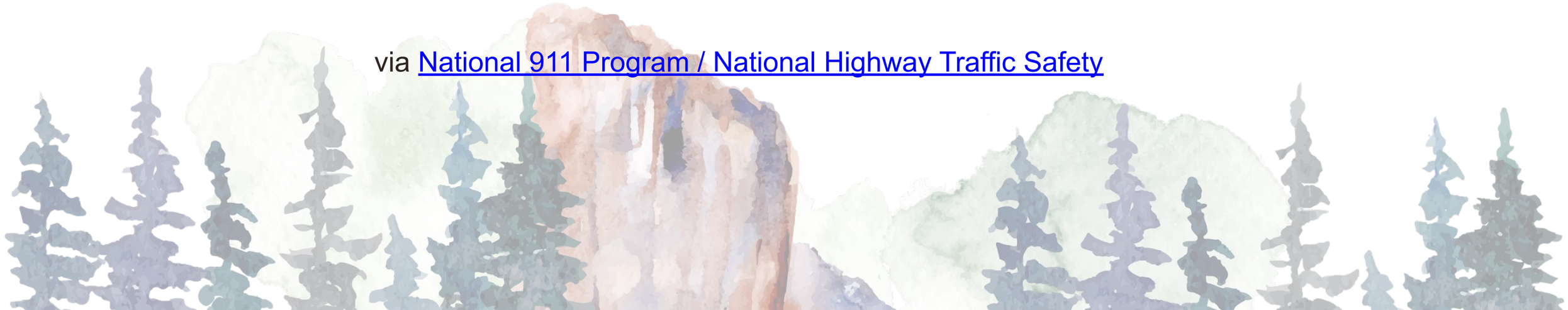
NEXT GENERATION 911

Systems Legislation

While the technology to implement these new IP-based 911 systems is available, the transition to NG911 involves much more than just new computer hardware and software.

Implementing NG911 in states and counties nationwide will require the coordination of a variety of emergency communication, public safety, legislative and governing entities.

via National 911 Program / National Highway Traffic Safety



COPPER WIRE AND NEXT-GEN SERVICES

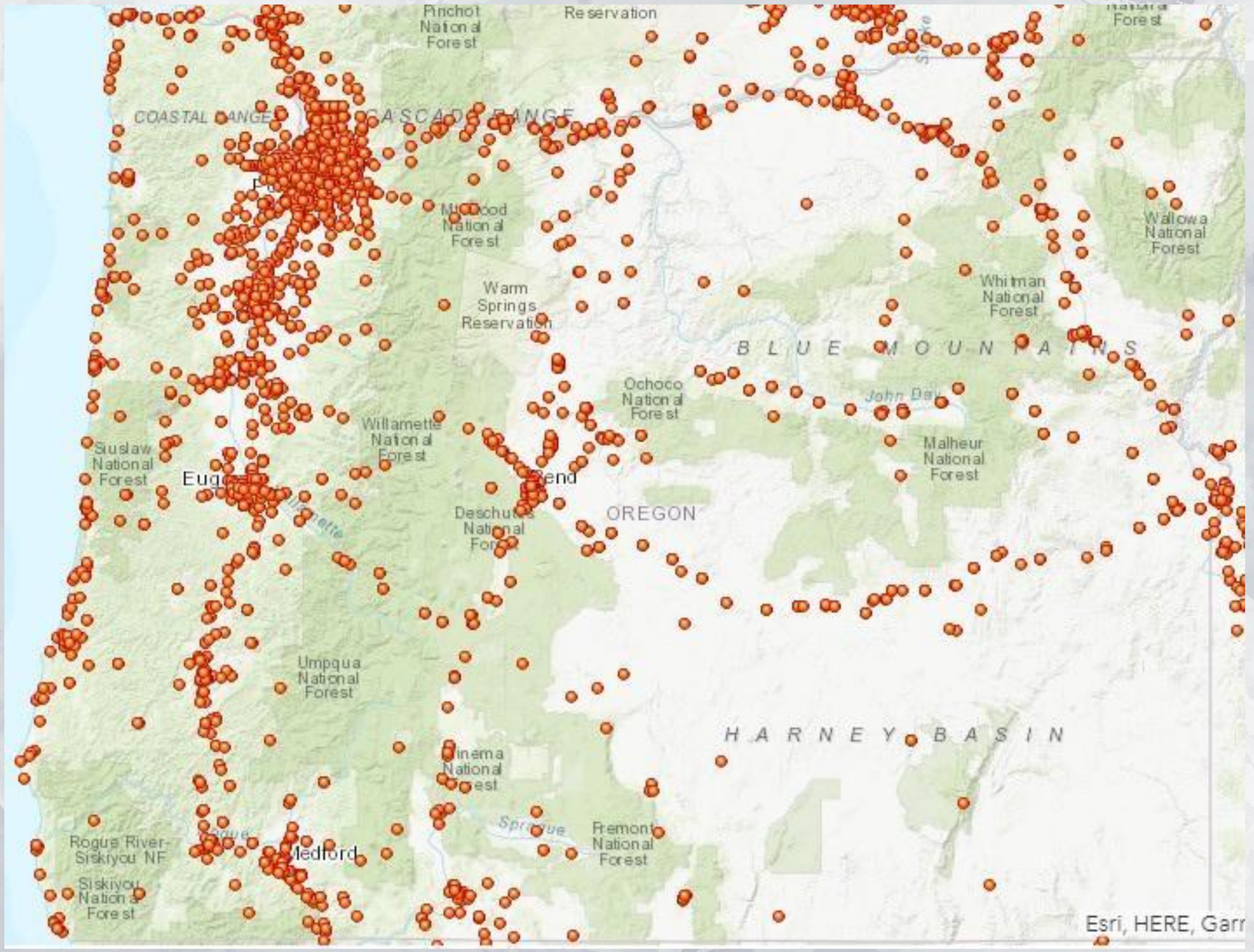
- Telecommunication companies continue to drop landline services.

- Nearly 50 million of the remaining lines have switched to Voice over IP, which sends voice calls in the user's broadband data stream (fiber) rather than over the traditional telephone copper wire pairs.

- Fiber (the transmitter of broadband) doesn’t conduct electricity, whereas copper does.

- When the power goes out, copper landlines might keep working for days or weeks by drawing electricity over the lines, while a phone that relies on fiber will only last as long as the unregulated battery system of the LEC. That's up to eight hours for Verizon’s most widely available backup system.

via The FCC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RESISTANCE TO WIRELESS INFRASTRUCTURE

- Several states and municipalities have tried to implement cell tower placement and Co-Located Small Cell deployment to better eliminate cell phone dead zones.

- The expansion of wireless infrastructure and the deployment of small cells can sometimes be met with resistance from local governments and public and private utility companies that own the utility poles that small cells are attached to.

- The FCC’s orders met such resistance and were immediately challenged by various stakeholders, including municipal groups and utility companies, and even governor’s offices.

via FCC

SPECIFIC CONSTITUENT CONCERNS

SMALL-CELL AND CELL TOWER DEPLOYMENT

Constituent concerns can include the following:

- Deployment is done in such a way that it becomes a nuisance to normal infrastructure functioning.
- Aesthetically displeasing and intrusive.
- Exposure to radio waves which is perceived to be harmful to health.
- Noise and unsightliness of the small cell infrastructure

FCC REGULATIONS

Public Safety Answering Points

FCC 911 Regulations - 47 C.F.R. Part 9

The FCC does in fact require wireless telephone carriers to provide 911 and E911 capability, where a Public Safety Answering Point (PSAP) requests it. Once it is implemented fully, wireless E911 will provide an accurate location for 911 calls from wireless phones.

Public Safety Answering Points

Enhanced 911 - Wireless Services

The FCC divided its wireless E911 program into two parts - Phase I and Phase II.

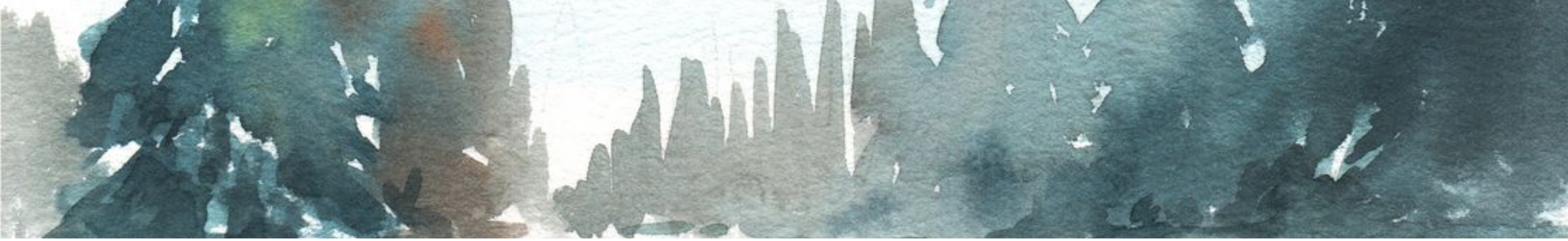
Under Phase I, the FCC requires carriers, within six months of a valid request by a local Public Safety Answering Point (PSAP), to provide the PSAP with the telephone number of the originator of a wireless 911 call and the location of the cell site or base station transmitting the call.

Public Safety Answering Points

Enhanced 911 - Wireless Services

Under Phase II, the FCC requires wireless carriers, within six months of a valid request by a PSAP, to begin providing information that is more precise to PSAPs, specifically, the latitude and longitude of the caller. This information must meet FCC accuracy standards, generally to within 50 to 300 meters, depending on the type of technology used.

The deployment of E911 requires the development of new technologies and upgrades to local 911 PSAPs, as well as coordination among public safety agencies, wireless carriers, technology vendors, equipment manufacturers, and local wireline carriers.



Rural Connectivity Issues

S.96 - Improving Rural Call Quality and Reliability Act of 2017:

The FCC must:

- (1) ensure the integrity of the transmission of voice communications to all customers in the United States,
- (2) prevent unjust or unreasonable discrimination among areas of the United States in the delivery of such voice communications, and
- (3) make a registry of intermediate providers publicly available on the FCC website.

via Improving Rural Call Quality and Reliability Act of 2017

Although the spirit of progress behind the FCC order is understandable, the actual situation due to the aforementioned “...migration to new technologies” leaves rural Americans without reliable telecommunications when cell towers are infrequent, and completely without telecommunication during electrical power loss.

This occurs with or without broadband access.

The “accelerations” in technology have only been for urban environments. Not surprisingly, the installation of cell towers in areas with a low-density population appears to be a low priority for local exchange carriers.

When residential rural Oregonians loose power either spontaneously, or during planned Public Safety Power Outages, they lose the ability to call emergency responders. As well, they lose the ability to receive public emergency alerts or notifications.

Legislation drafted to improve the communications infrastructure of rural Oregonians will save lives and property.