



Century**Link**TM

Industry Trends and Policy Drivers Affecting Carriers of Last Resort Presentation to the Oregon Public Utilities Commission

Phil Grate, CenturyLink Government Affairs Director

May 14, 2020

Carriers of Last Resort

Introduction

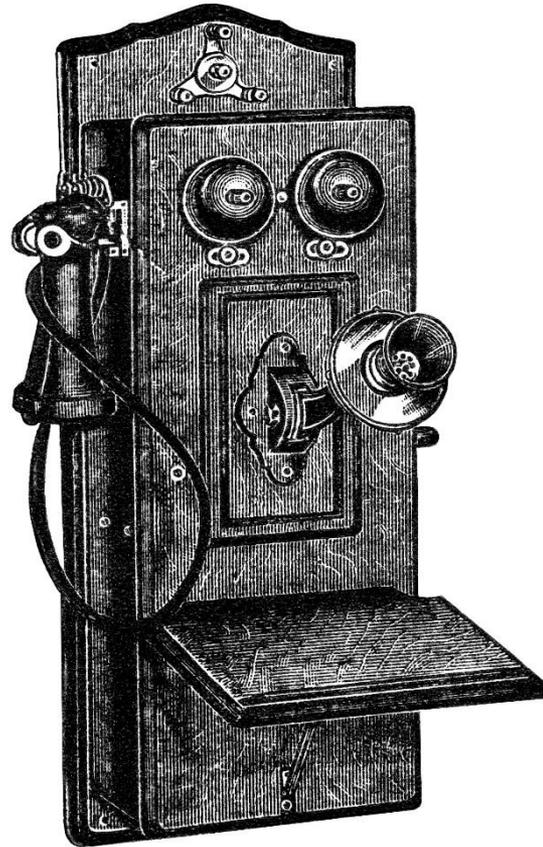
Oregon's COLRs are ILECs

	Number of Incumbent Local Exchange Carriers	Year End 2018 Access Lines	Percent of Total ILEC Access Lines
Small Telecommunications Utilities	14	14,067	2.8%
Telecommunications Cooperatives	11	30,004	5.9%
Frontier (Frontier and Citizens)	2	127,200	25.1%
CenturyLink (Qwest, United and Centurytel)	3	334,802	66.2%
TOTAL	30	506,073	100.0%

Carriers of Last Resort

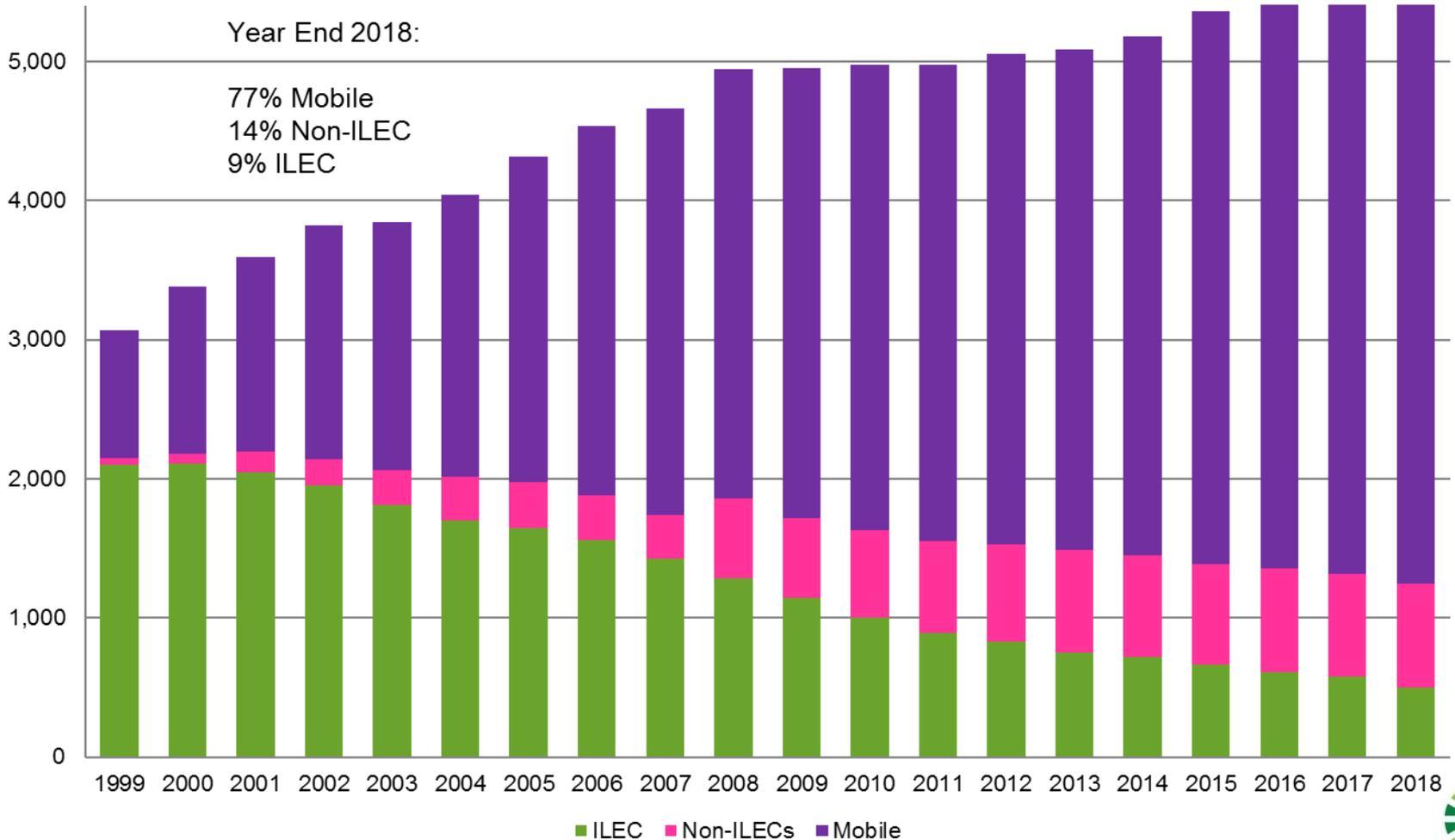
Industry Trends

ILEC origins



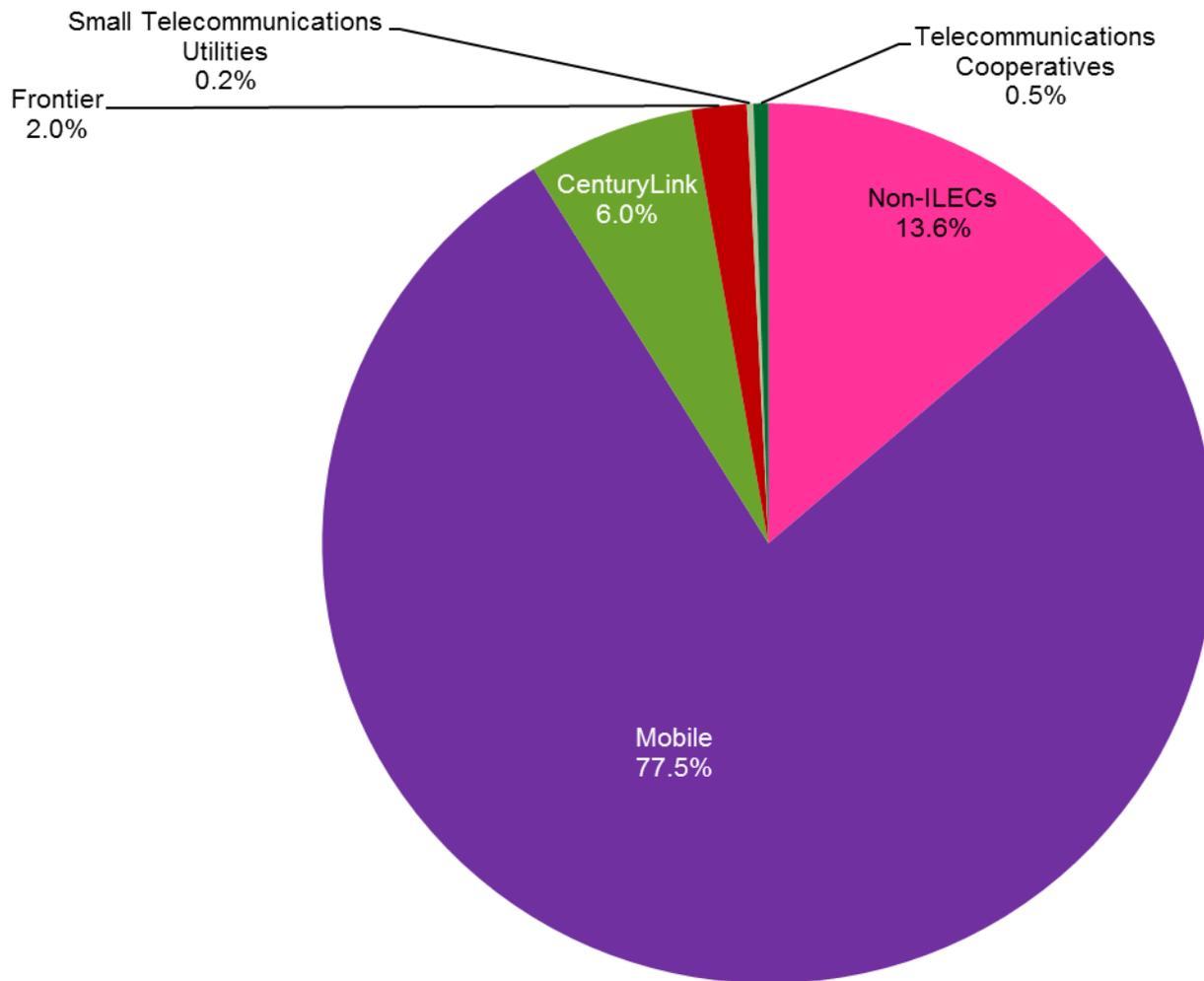
Oregon voice subscriptions 1999 - 2018

Oregon Voice Subscriptions
in 000's Source: FCC Reports



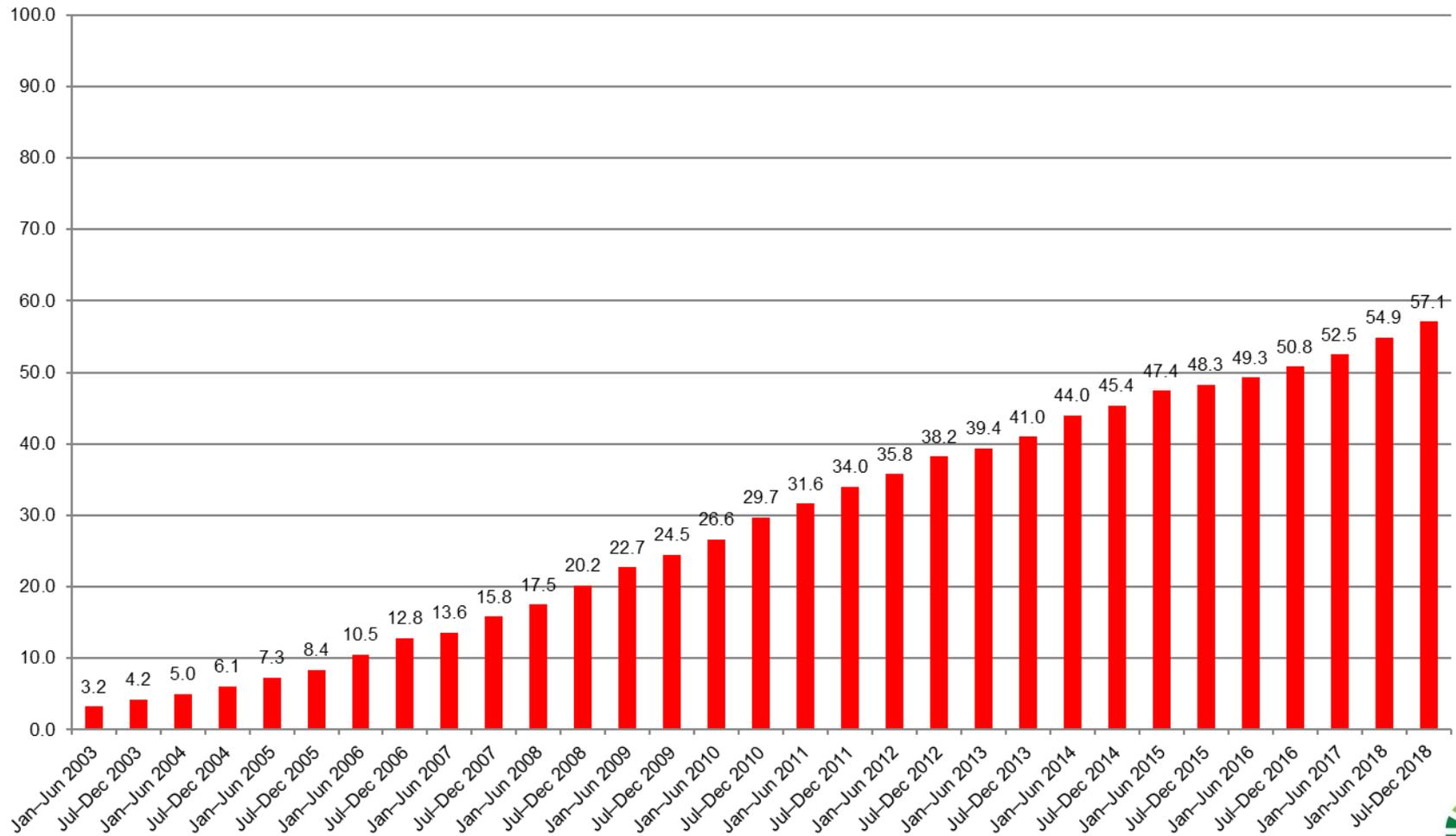
As of 12-31-18 COLRs provided 9% of voice connections

Share of Oregon Voice Subscriptions 2018



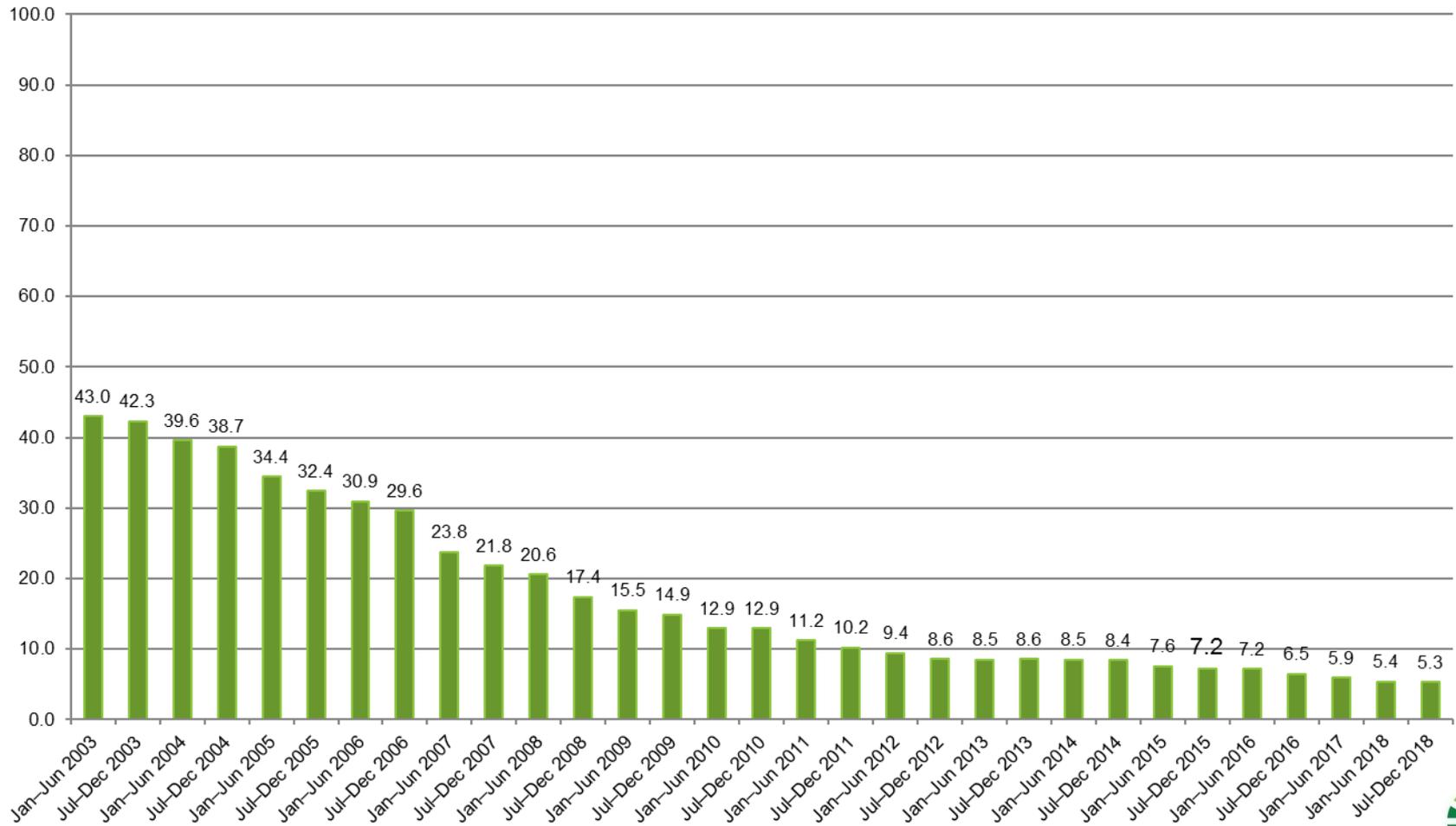
The Oregon market reflects a national trend

Percent wireless-only U S households
per US Center for Disease Control National Center for Health Statistics



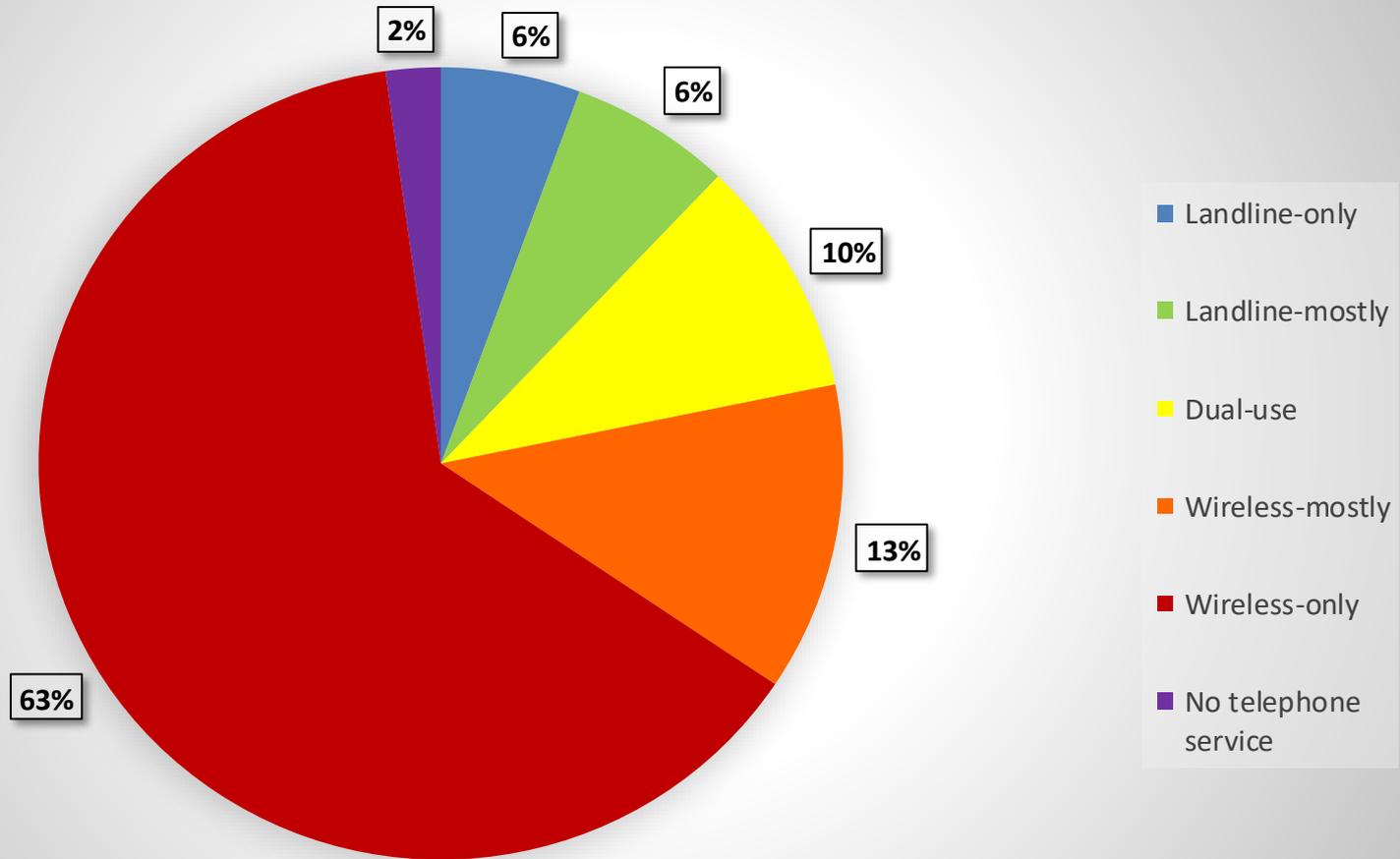
Only 5% of US households are wireline only

Percent landline only U S households
per US Center for Disease Control National Center for Health Statistics



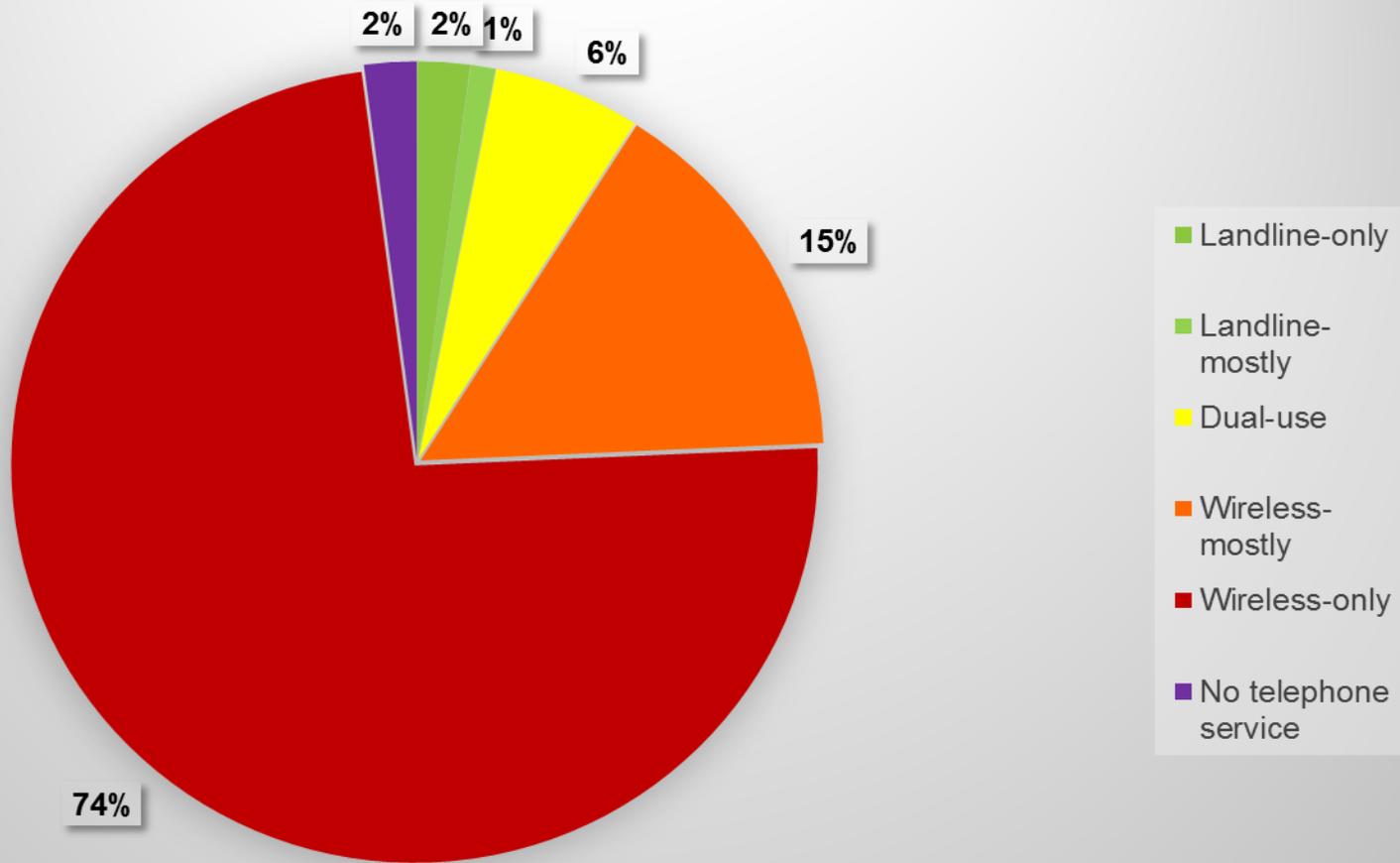
Oregonians have embraced wireless

Type of Telephone Service by % of Oregon Households 2018 Adults
per US Center for Disease Control National Center for Health Statistics



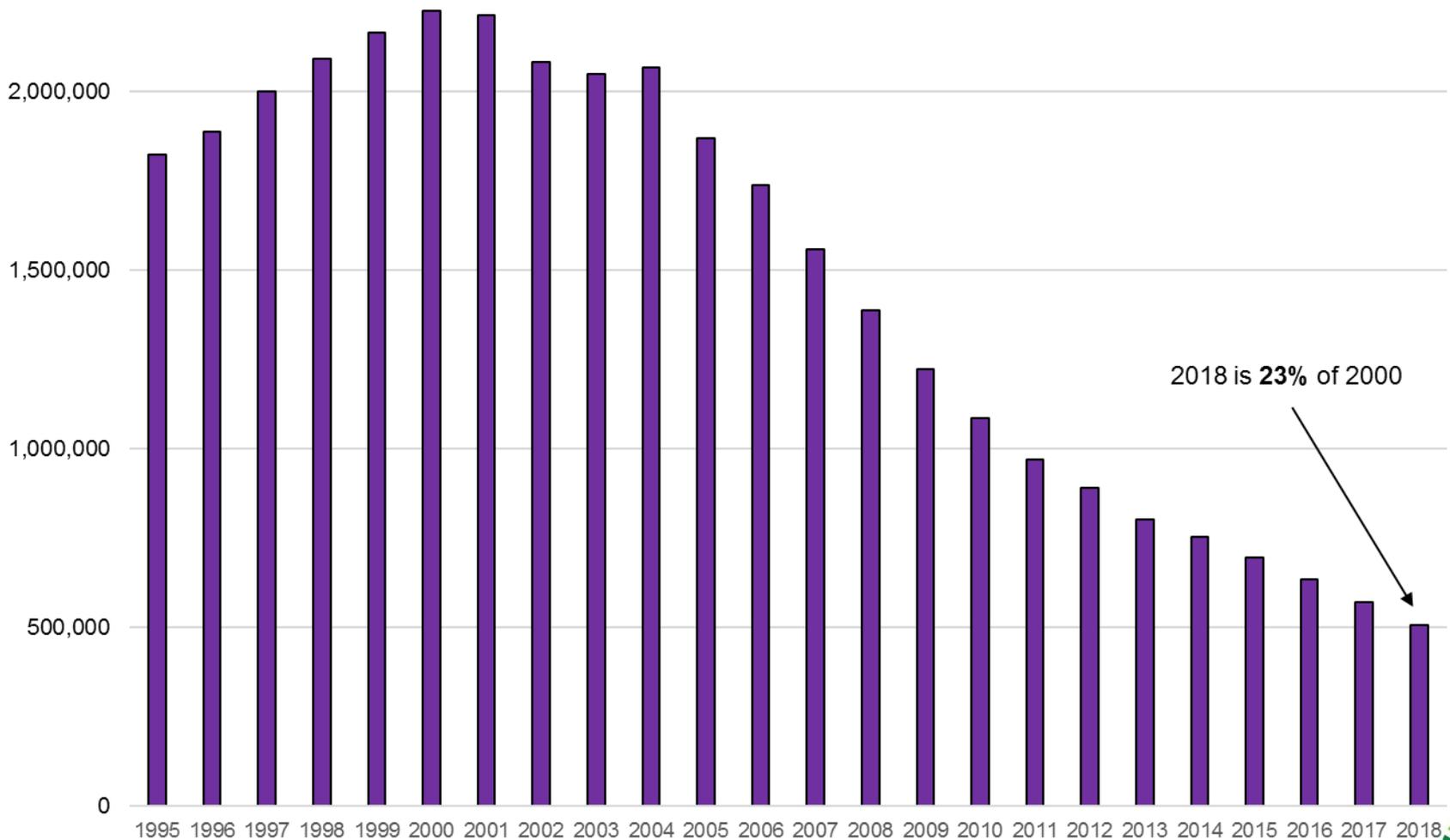
Young Oregonians are more wireless

Type of Telephone Service by Percent of Oregon Households 2018 Children under 18
per US Center for Disease Control National Center for Health Statistics



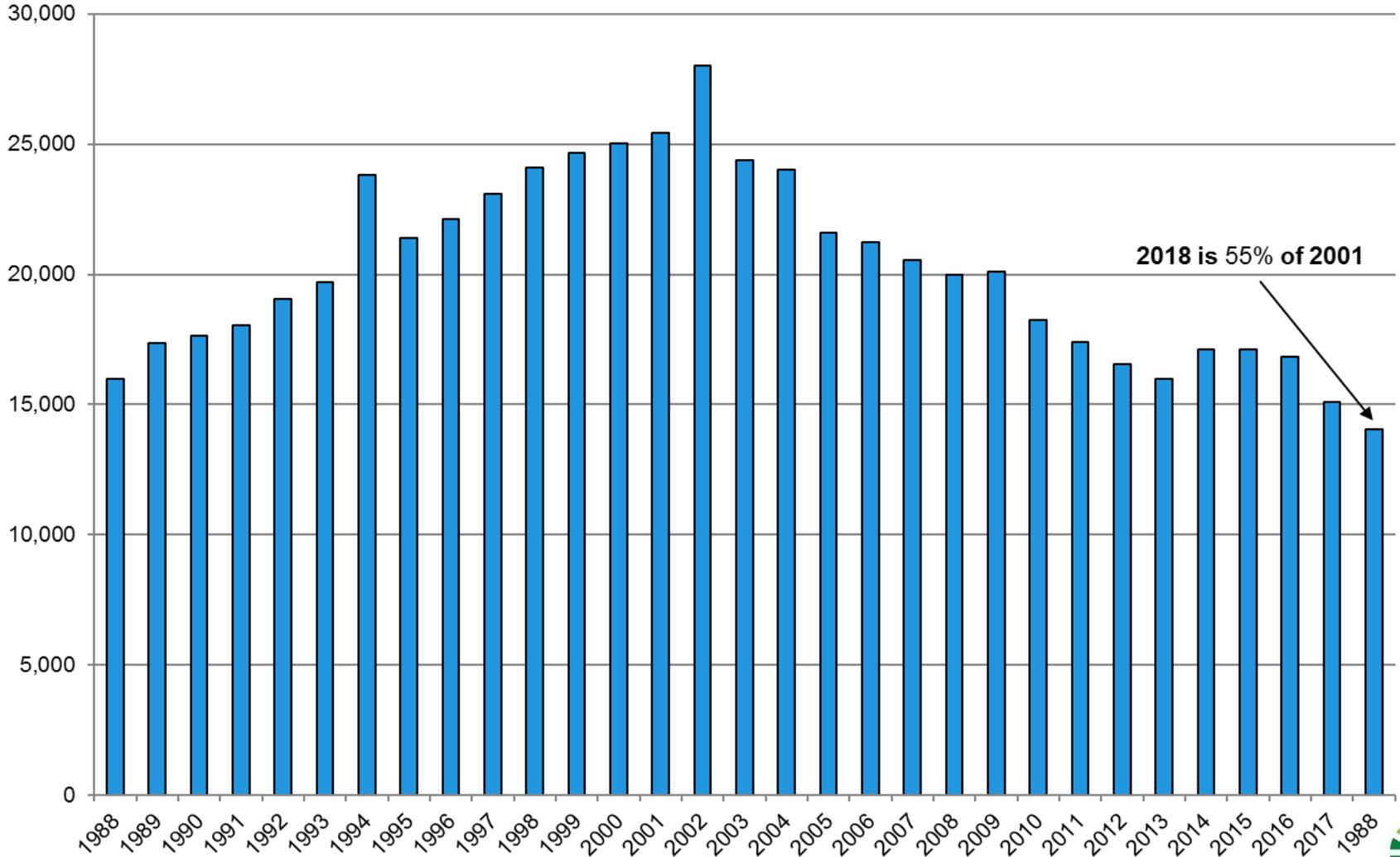
Consumer preference drives access line loss

Oregon Incumbent Local Exchange Carriers (ILECs) Total Access Lines



Small Telecom Utilities have lost 45%

Small Telecom Utilities Total Access Lines

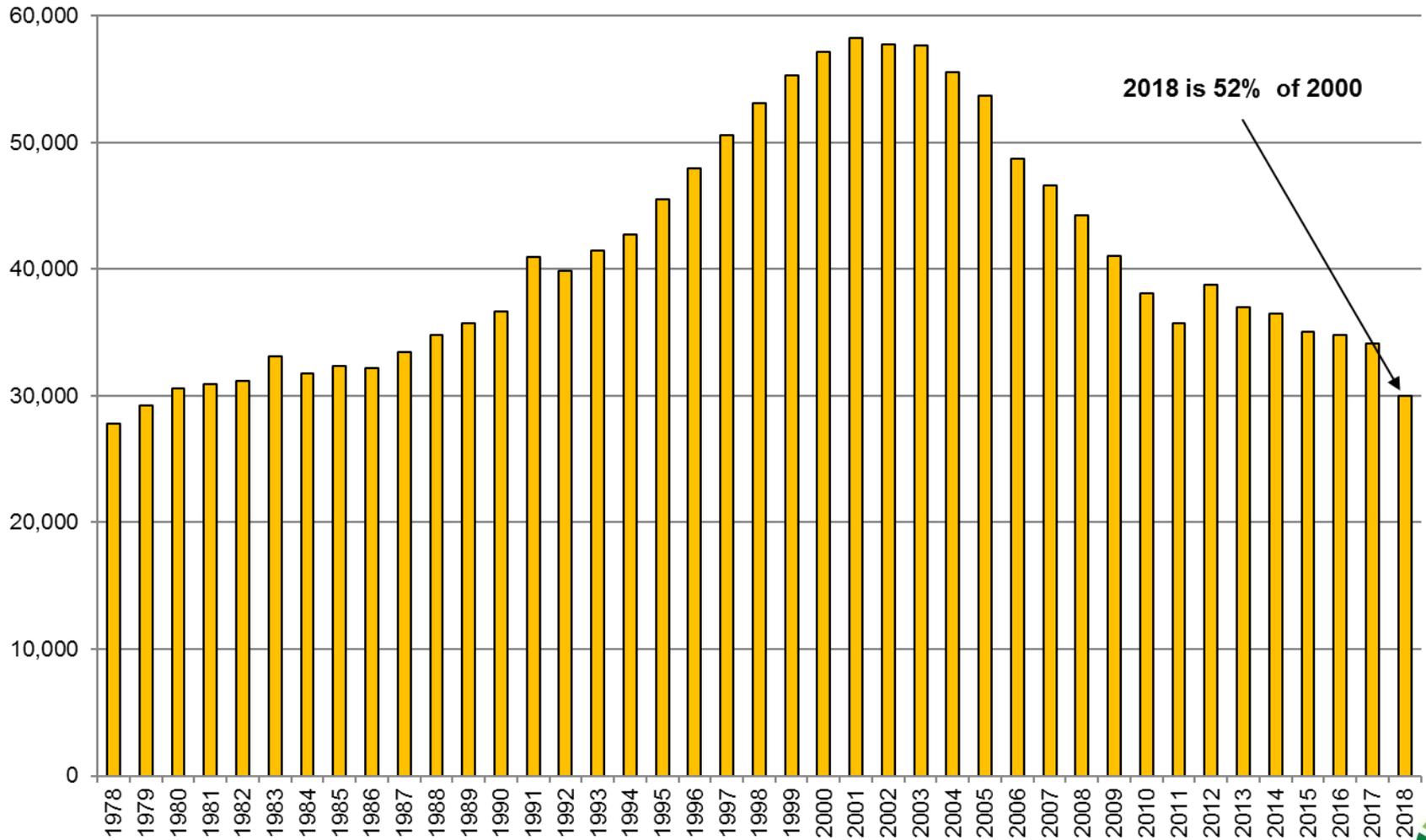


2018 is 55% of 2001



Oregon Cooperatives have lost 48%

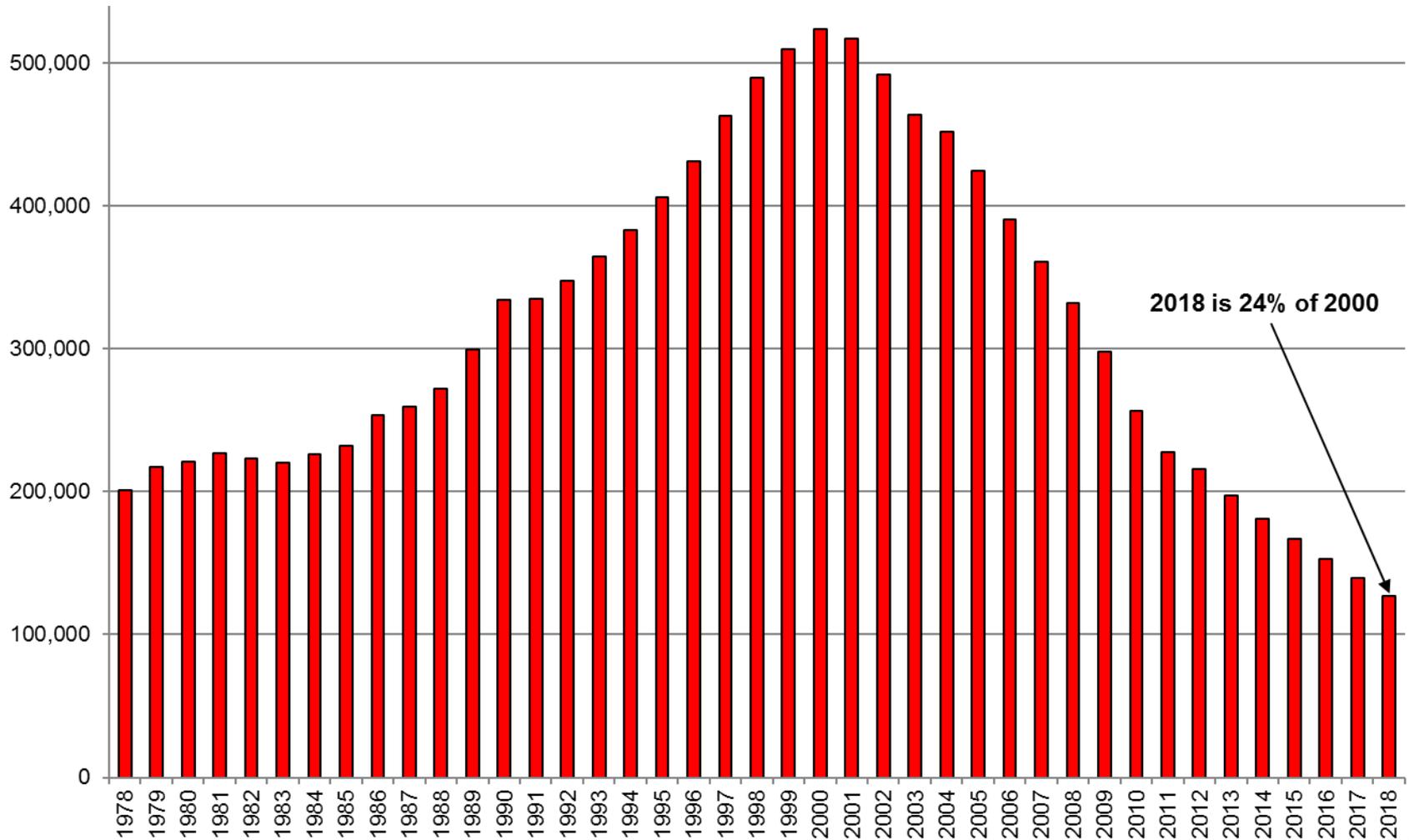
Cooperative Telephone Companies Total Access Lines



2018 is 52% of 2000

Frontier has lost 76%

Frontier Total Access Lines

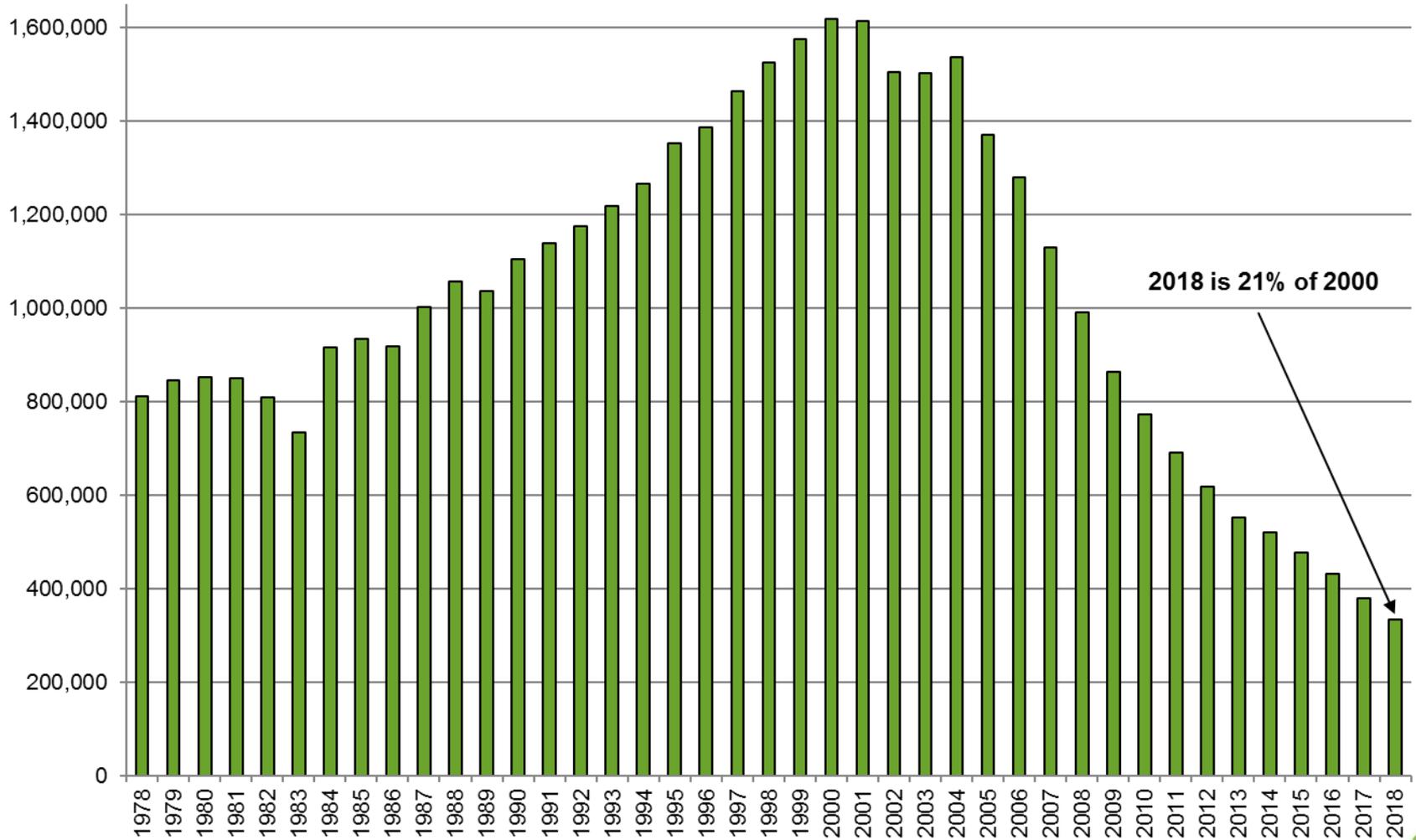


2018 is 24% of 2000



CenturyLink has lost 79%

CenturyLink Total Access Lines

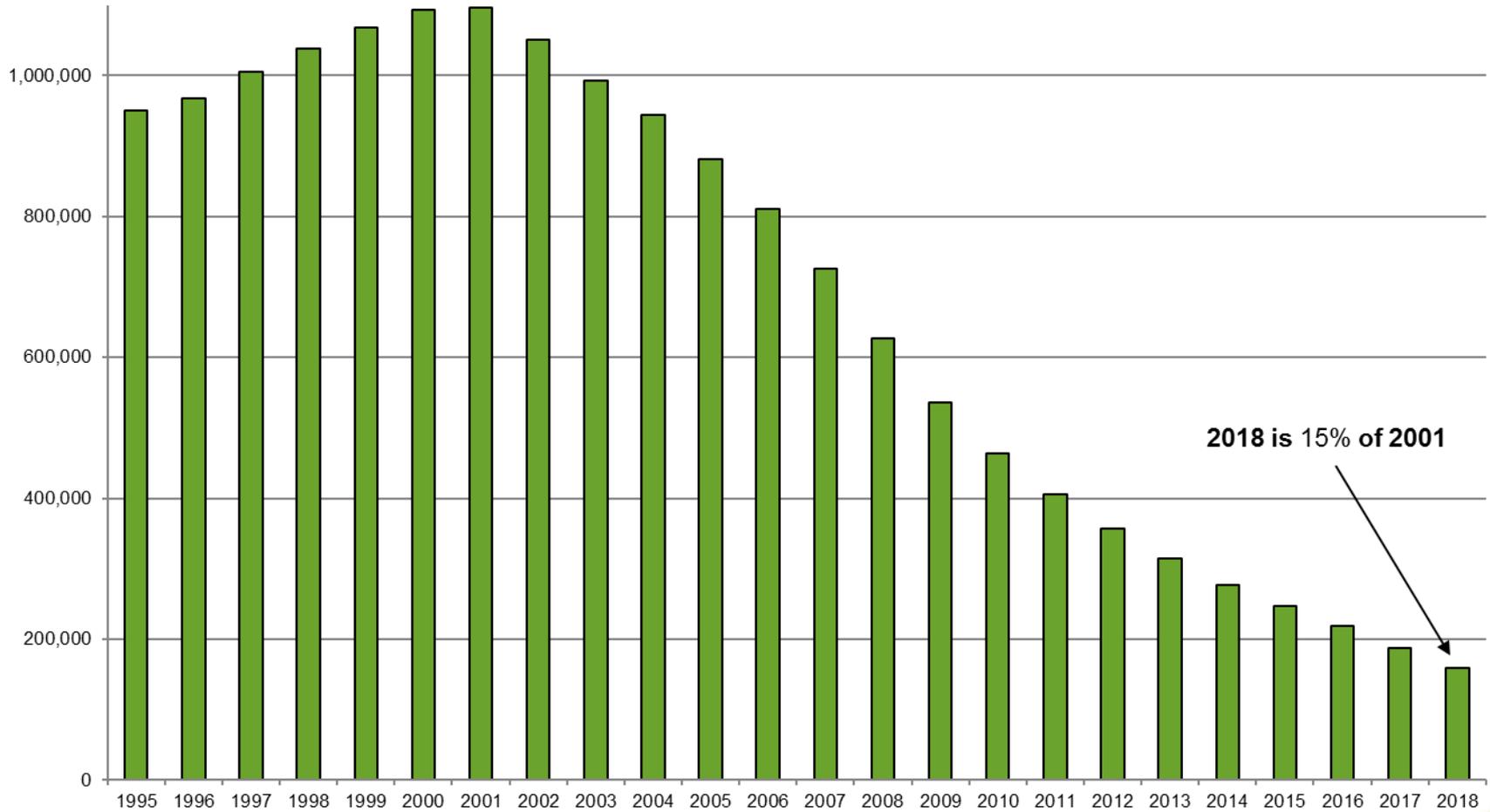


2018 is 21% of 2000



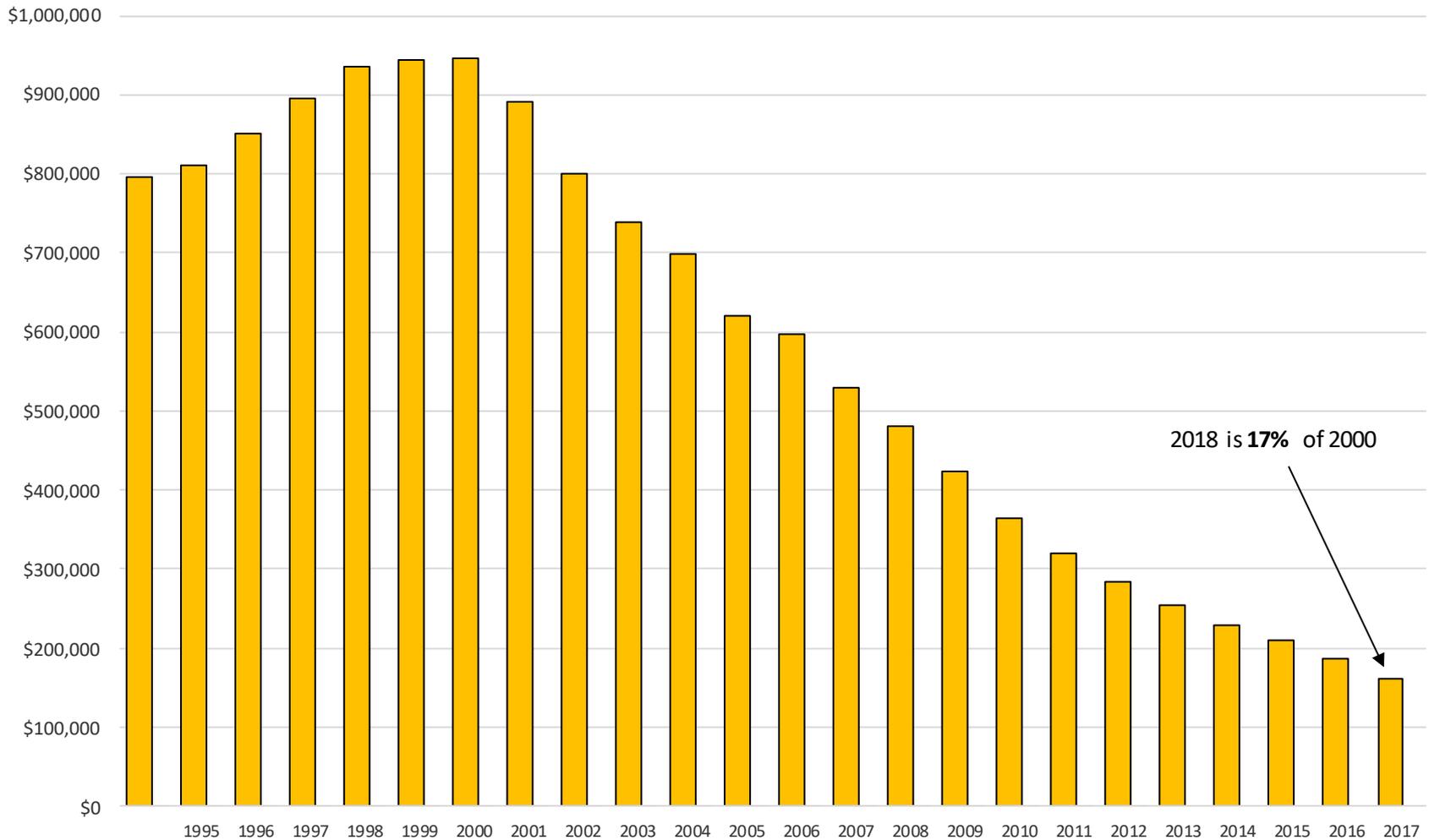
Residential line loss is more severe

CenturyLink Residential Lines



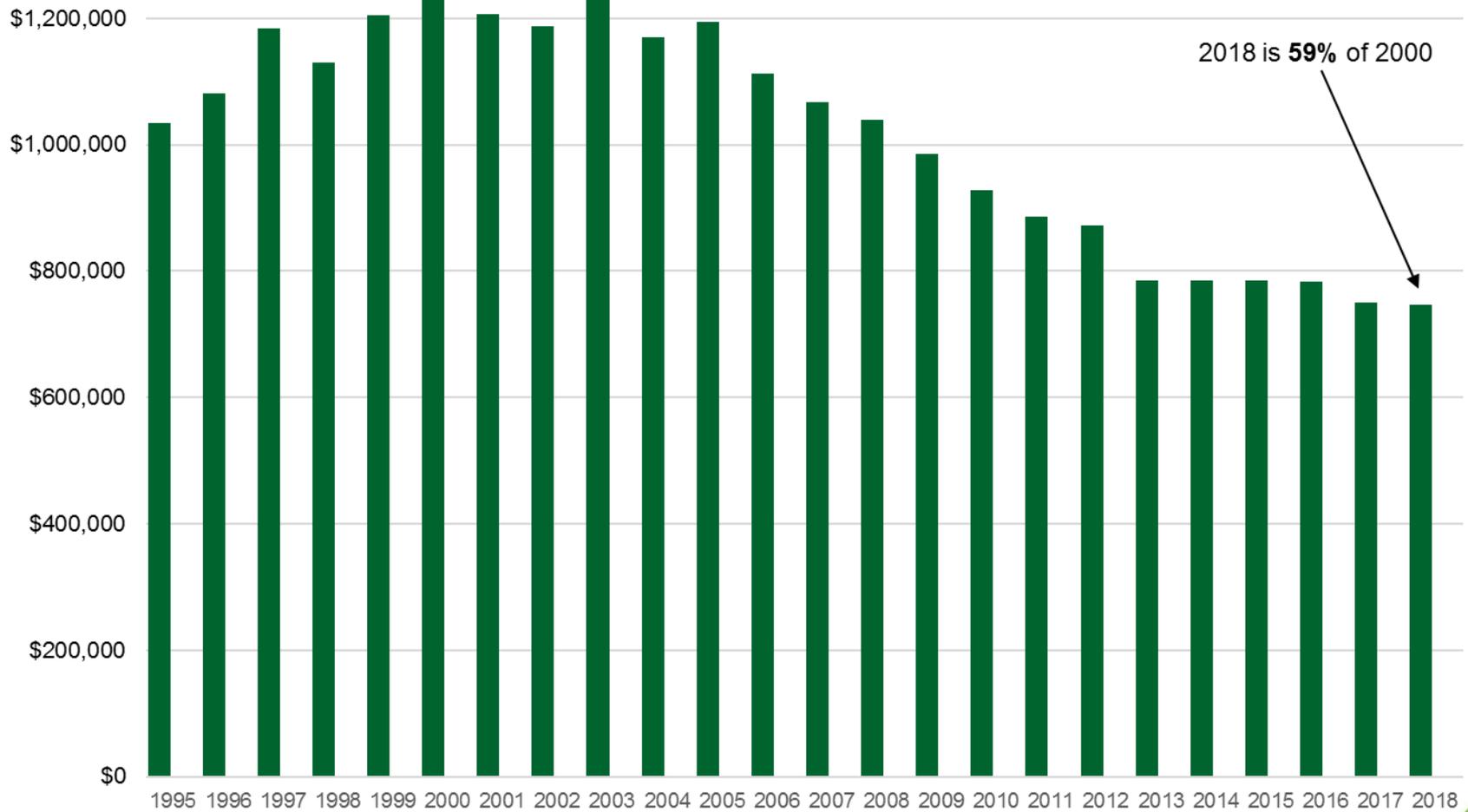
Line loss brings predictable financial consequences

Oregon ILEC Local Service Revenues Inflation Adjusted to 2018 \$1,000s



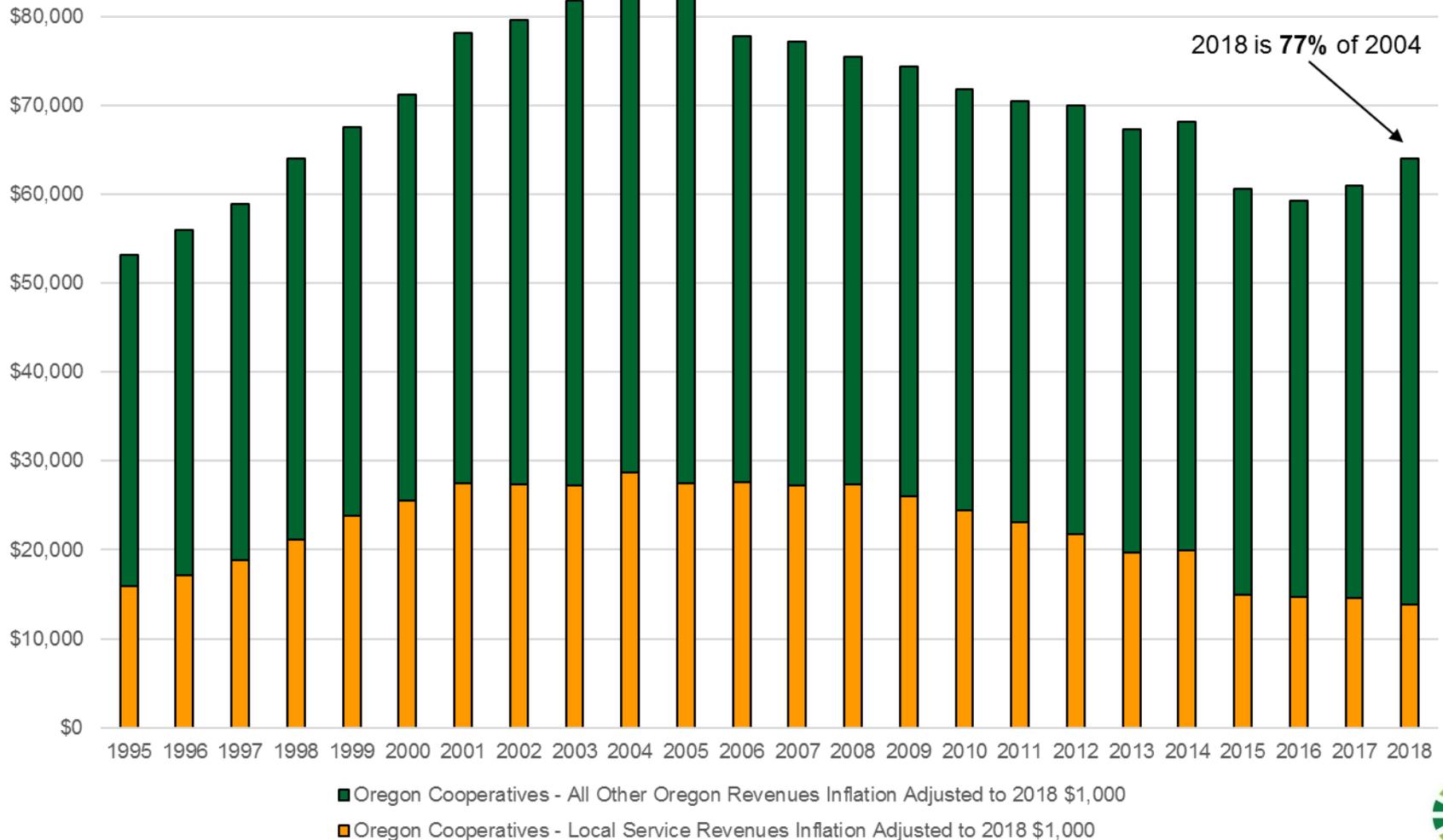
All other revenue sources have also declined

All Other Oregon ILEC Revenues Inflation Adjusted to 2018 \$1,000s



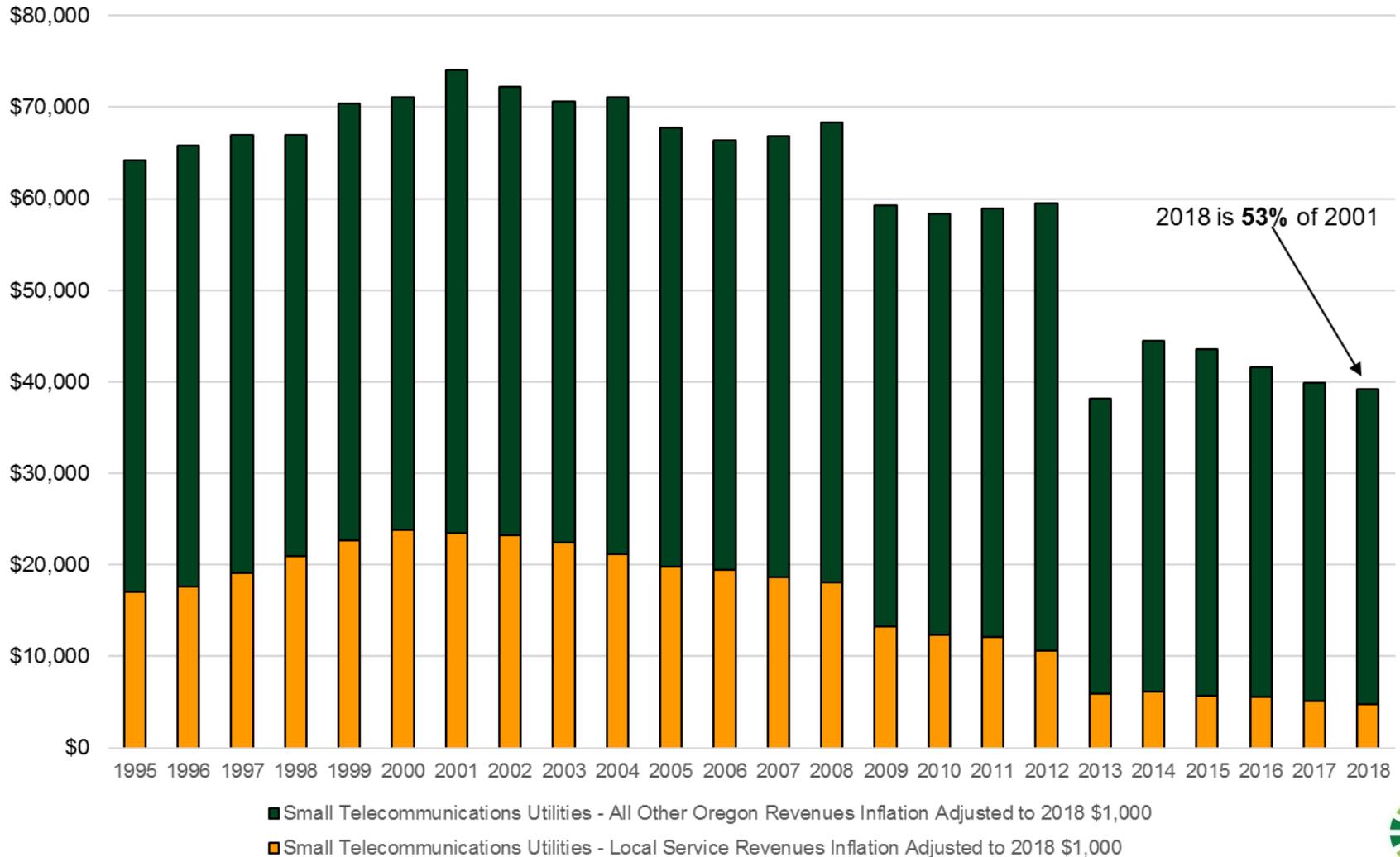
Total Coop revenues have declined 23%

Telecommunications Coops Oregon Total Revenues Inflation Adjusted to 2018 \$1,000s



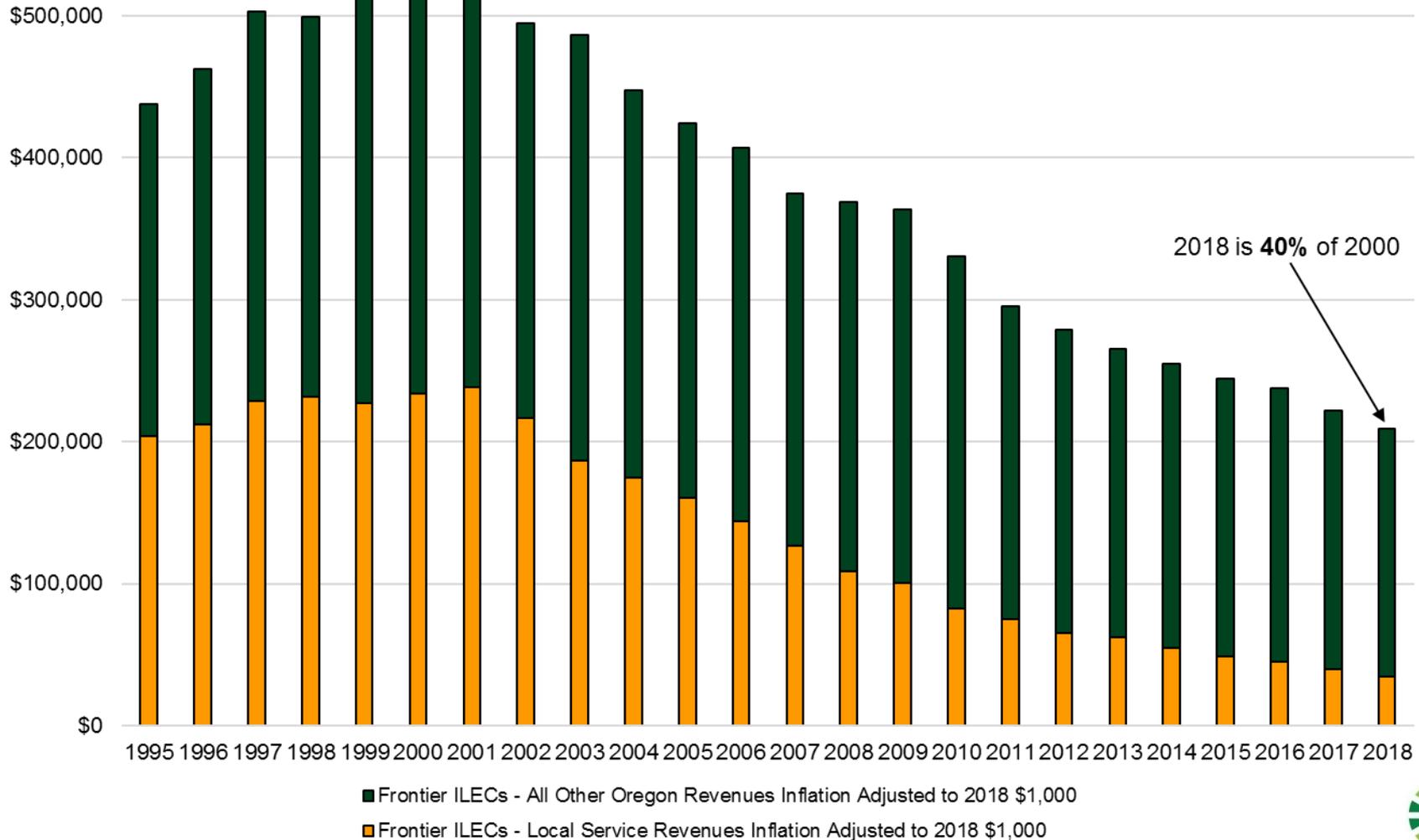
Total Small Utilities revenues have declined 47%

Small Telecommunications Utilities Oregon Total Revenues Inflation Adjusted to 2018 \$1,000s



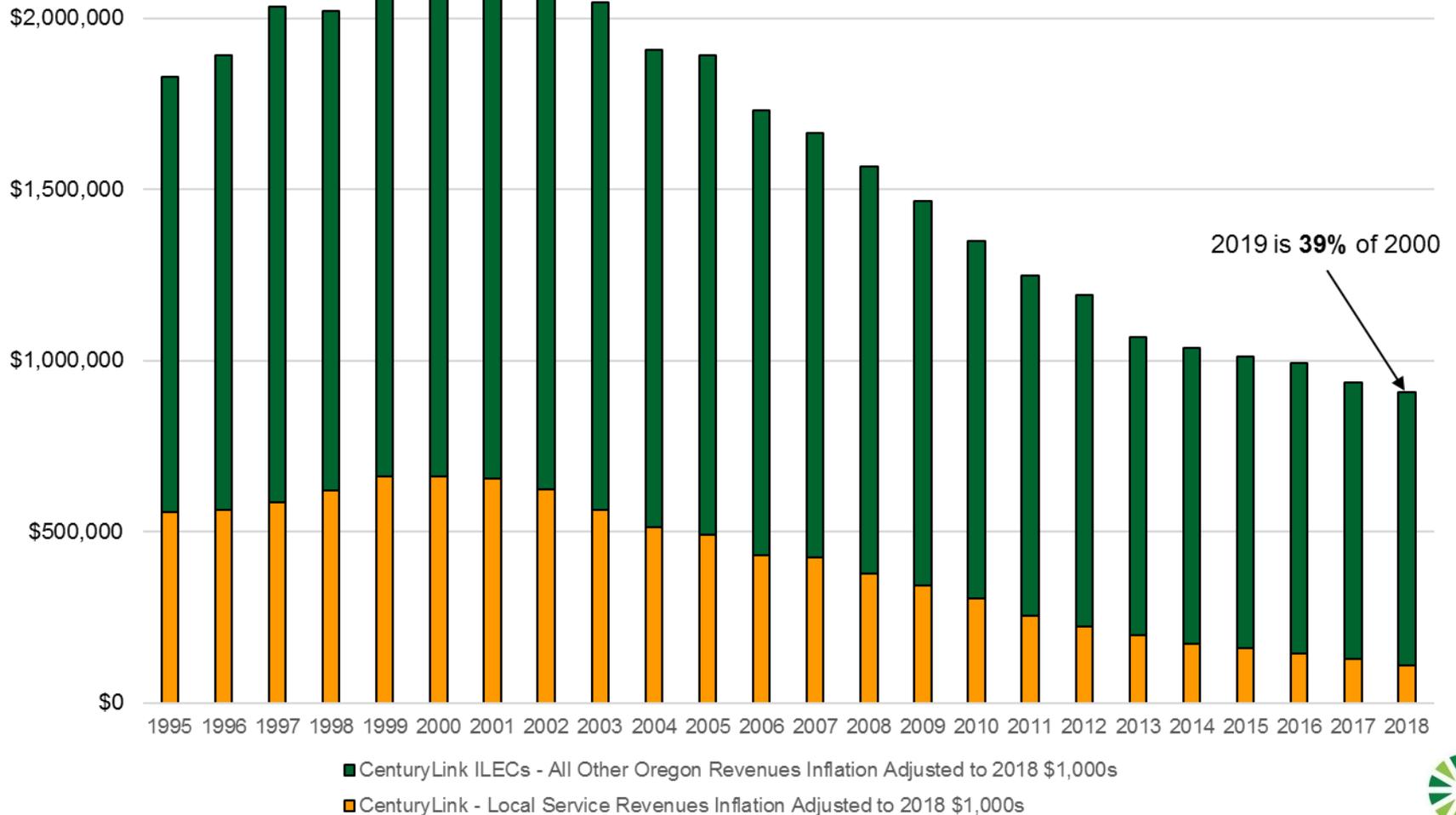
Total Frontier revenues have declined 60%

Frontier ILECs Oregon Total Revenues Inflation Adjusted to 2018 \$1,000s



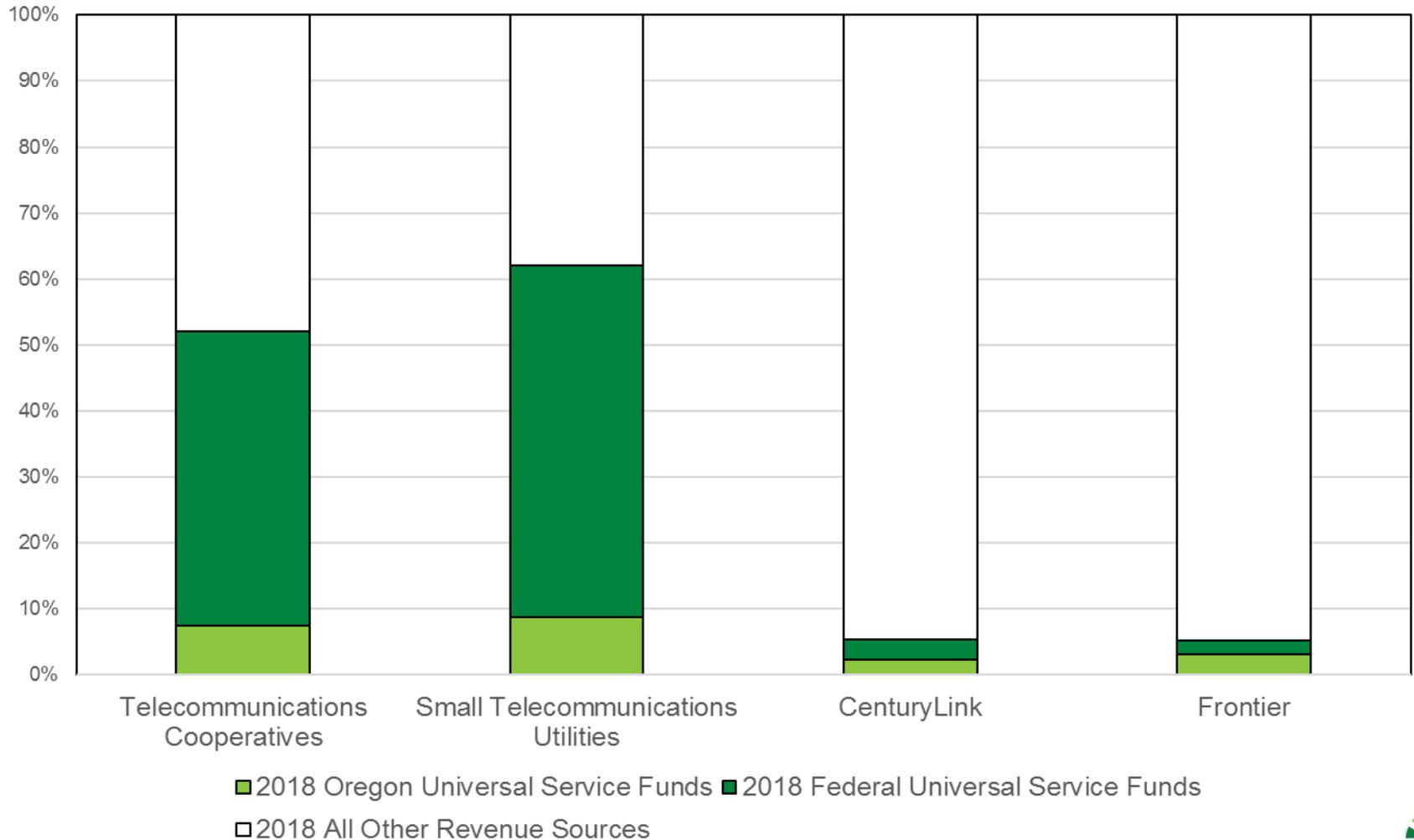
Total CenturyLink revenues have declined 61%

CenturyLink ILECs Oregon Total Revenues Inflation Adjusted to 2018 \$1,000s

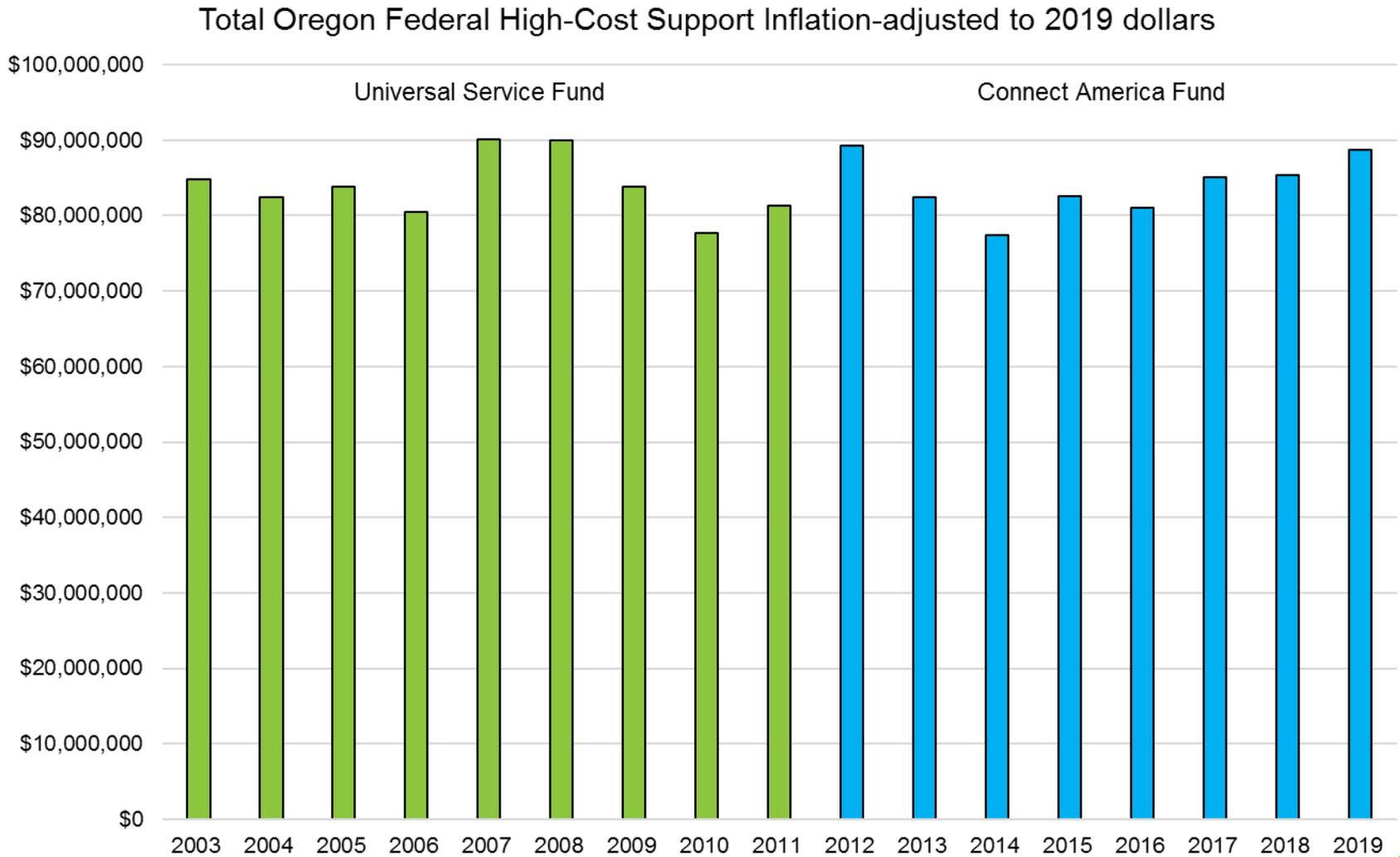


ILEC revenues include federal and state support

Oregon ILEC Revenue Sources 2018

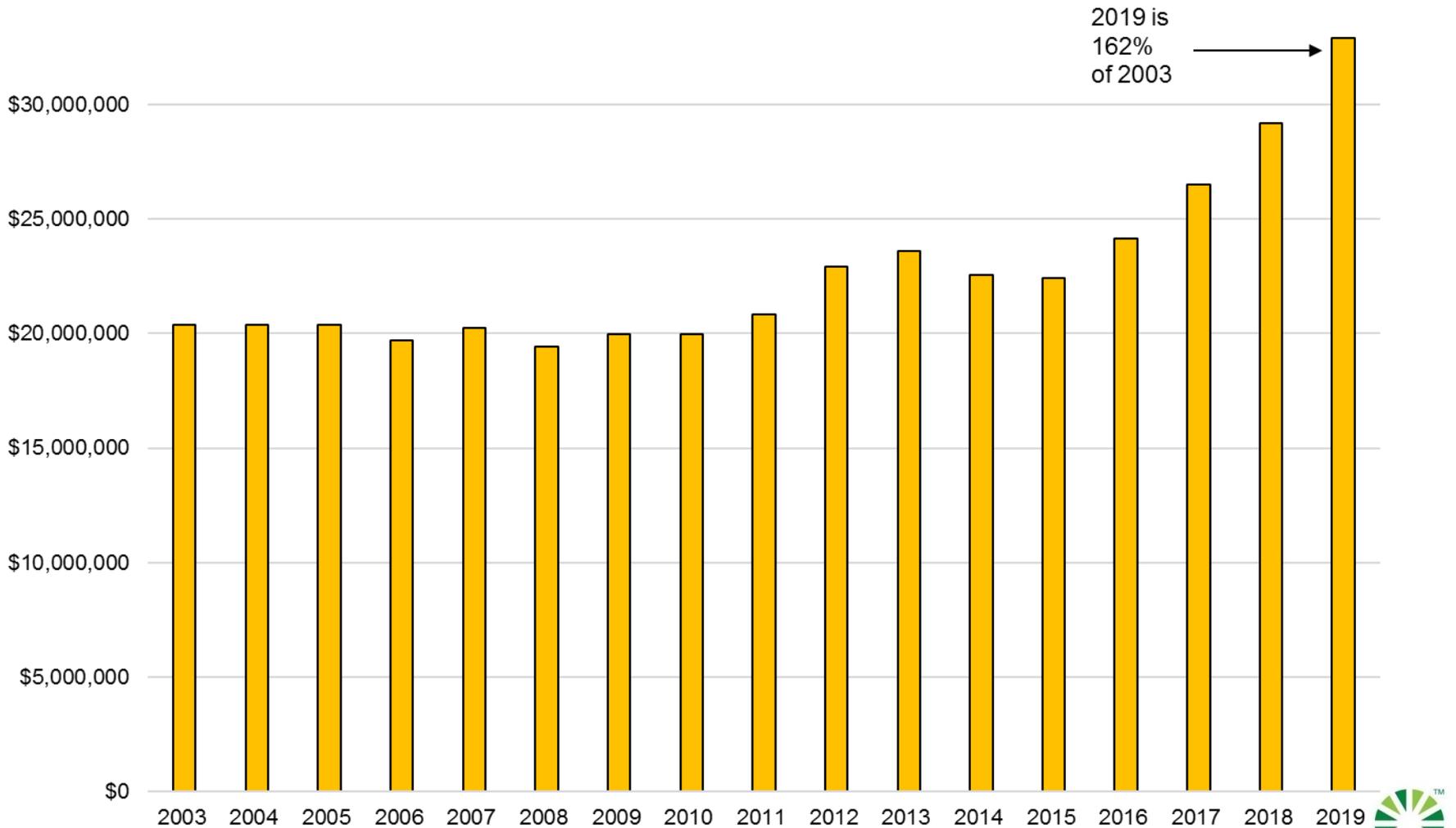


Federal support has been relatively stable



Federal Support Telecommunications Cooperatives

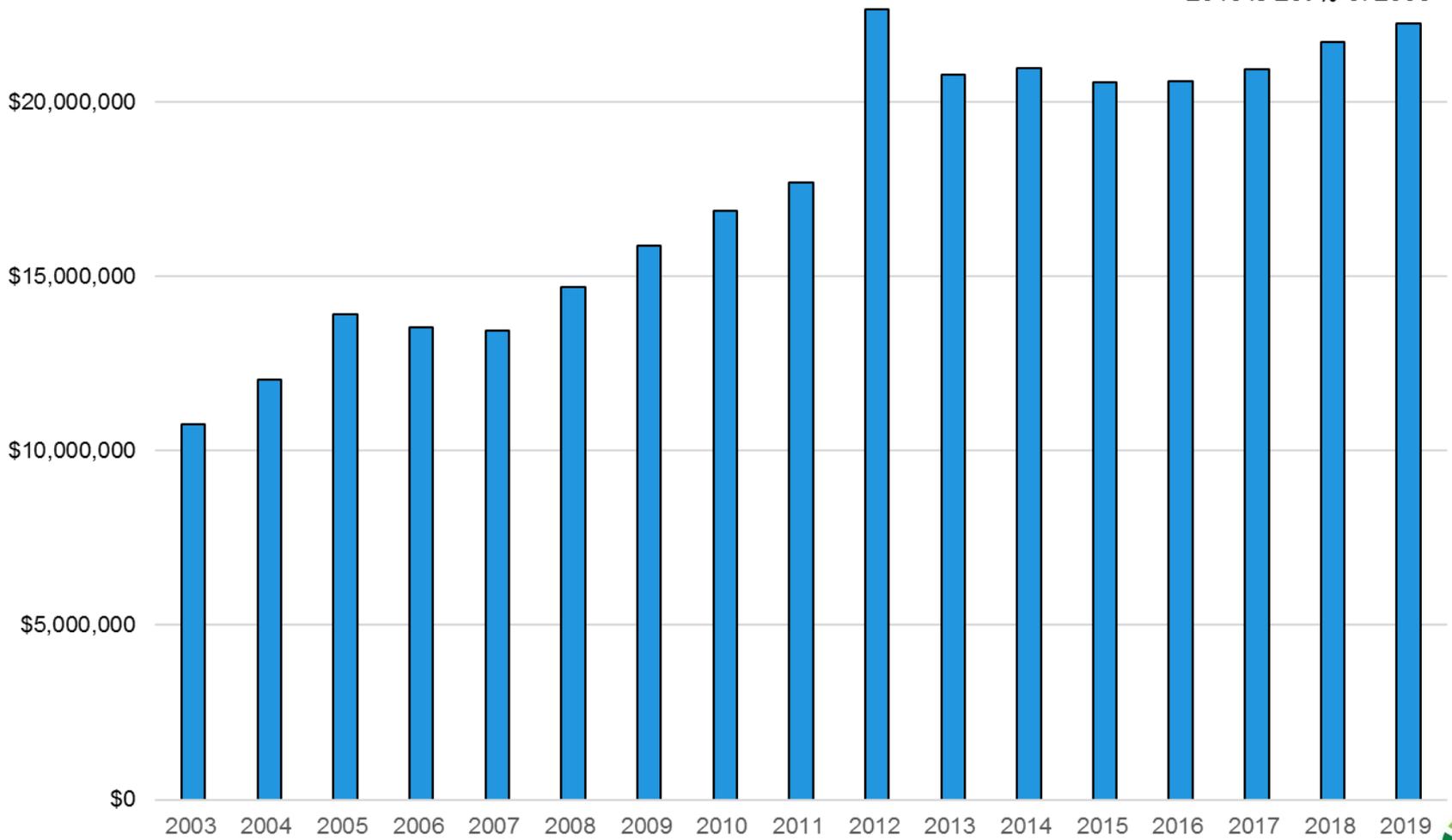
Oregon Cooperatives Federal High-Cost Support Inflation-adjusted to 2019 dollars



Small Telecommunications Utilities Federal Support

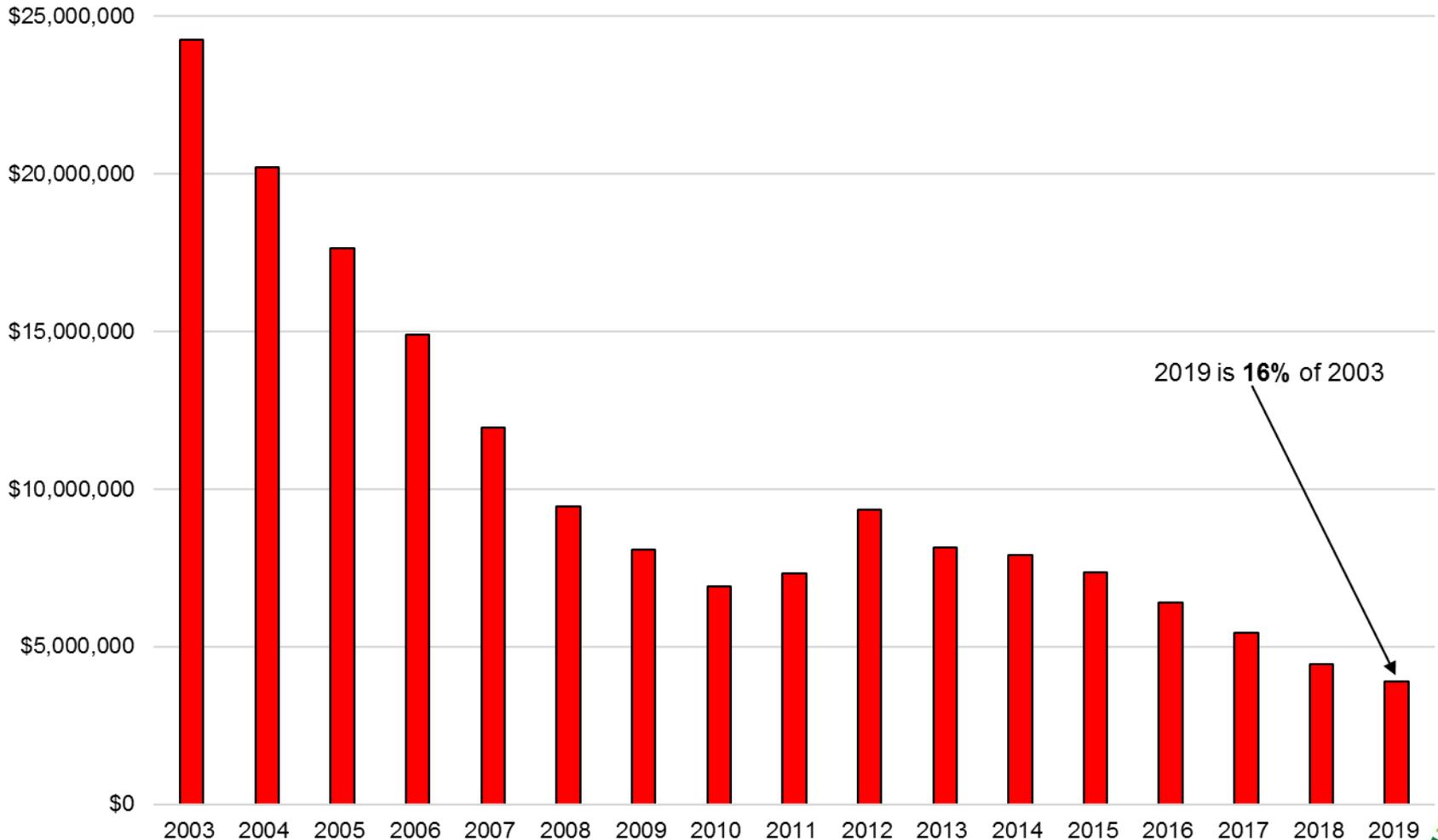
Small Telecommunications Utilities Federal High-Cost Support Inflation-adjusted to 2019 dollars

2019 is **207%** of 2003



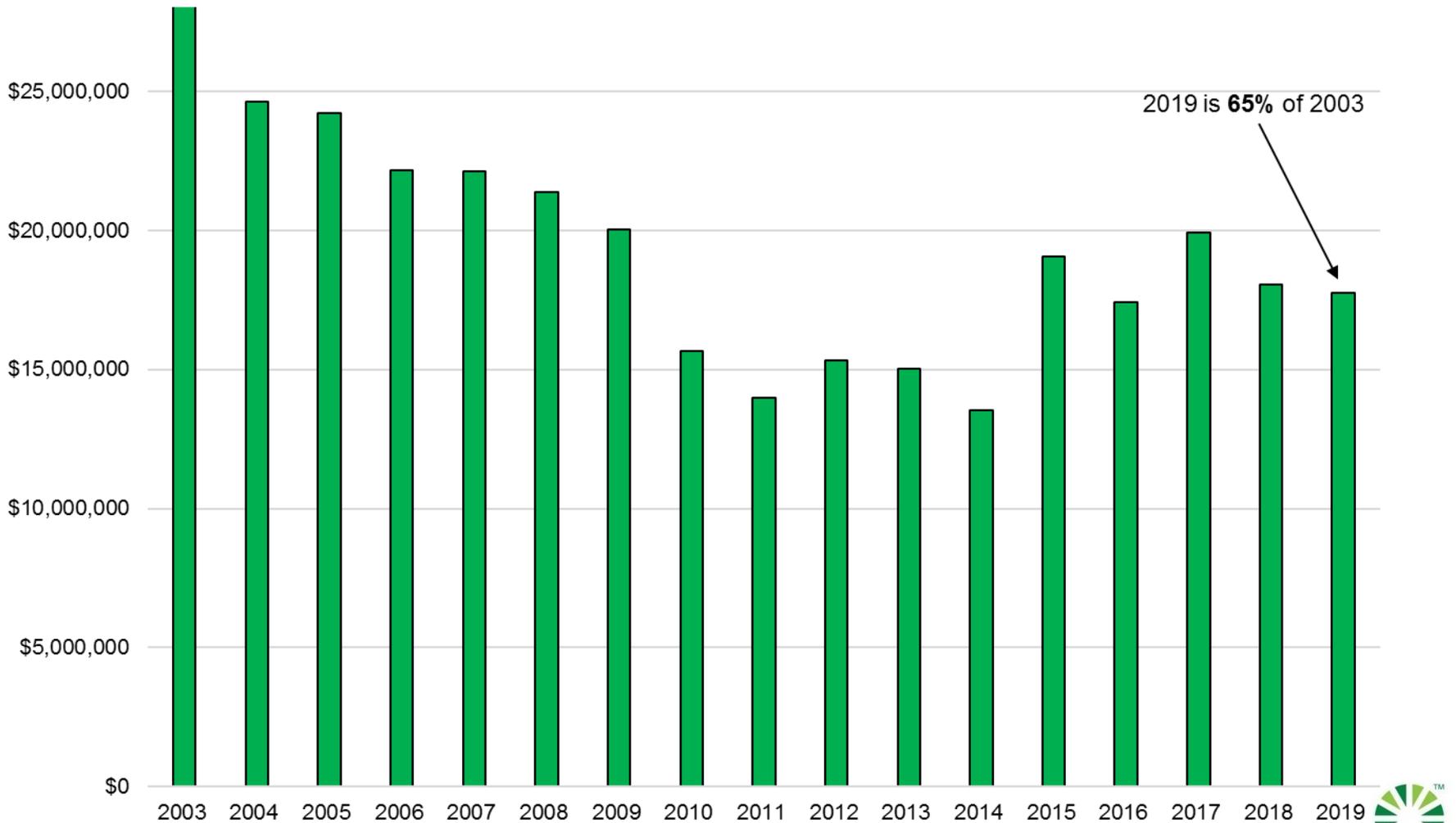
Federal Support Frontier

Frontier ILECS Federal High-Cost Support Inflation-adjusted to 2019 dollars



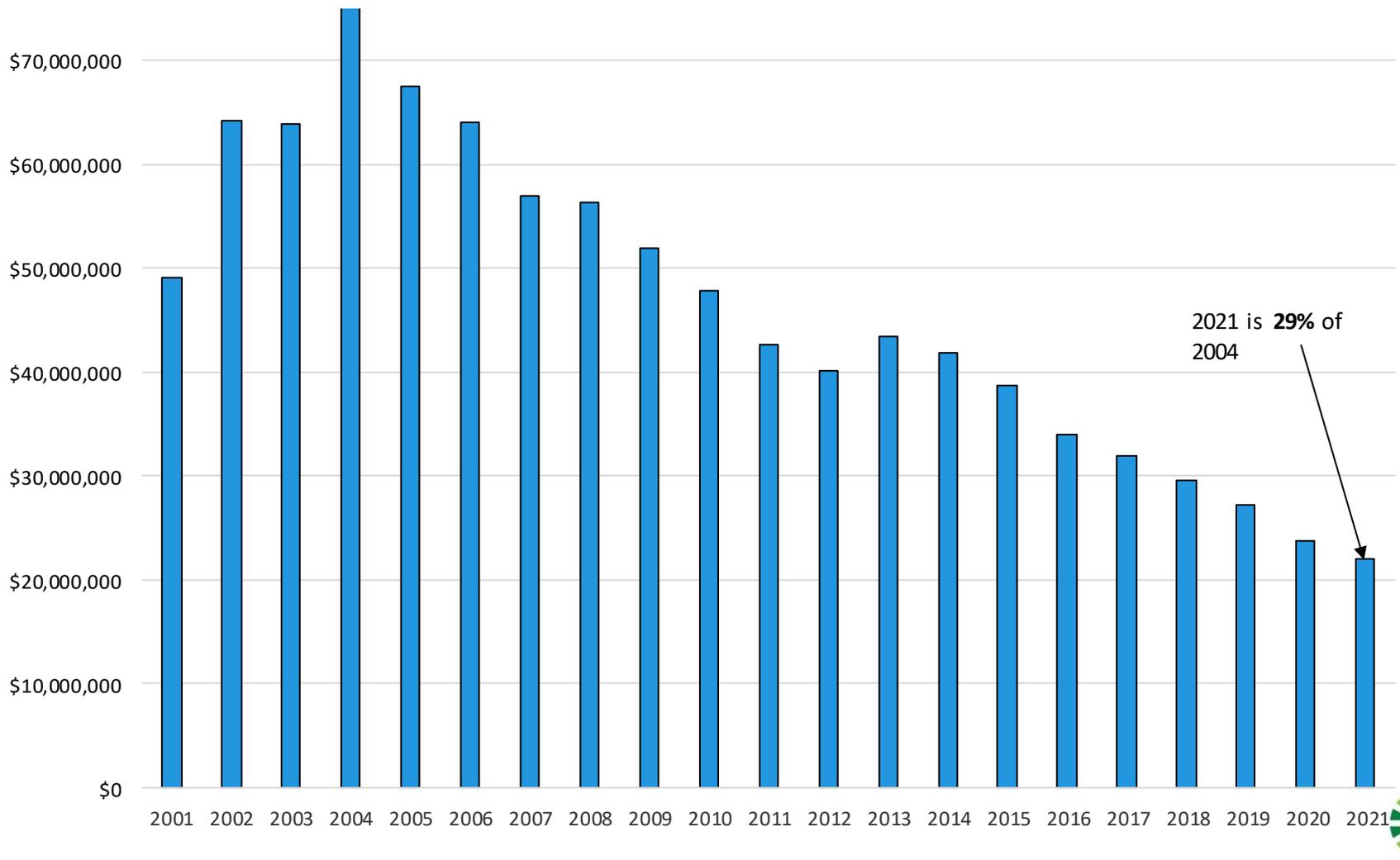
Federal Support CenturyLink

CenturyLink ILECs Federal High-Cost Support Inflation-adjusted to 2019 dollars



Falling state support contributes to ILEC revenue losses

Annual OUSF Support to Oregon ILECs inflation adjusted to 2019 dollars (\$1000s)



2021 is **29%** of 2004

Census Bureau Definition of Urban and Rural

Components of the Urban and Rural Classifications

“The Bureau of the Census defines urban as comprising all territory, population, and housing units located in **urbanized areas** and in places of 2,500 or more inhabitants outside of UAs. The term urban refers to both kinds of geographic entities. The terms urban, urbanized area, and rural are the Census Bureau’s definitions; other Federal agencies, State agencies, local officials, and private groups may use these same terms to identify areas based on different criteria.”

U S Census Bureau Geographic Areas Reference Manual

Geographic Areas Reference Manual Definitions

Urbanized Areas (UAs)

“A UA is a continuously built-up area with a population of 50,000 or more. It comprises one or more places—central place(s)—and the adjacent densely settled surrounding area—urban fringe—consisting of other places and nonplace territory.”

Urban Places Outside of UAs

“Outside of UAs, an urban place is any incorporated place or census designated place (CDP) with at least 2,500 inhabitants. A CDP is a densely settled population center that has a name and community identity, and is not part of any incorporated place (see Chapter 9, “Places”).”

Census Bureau definition of Rural

Rural Places and Territory

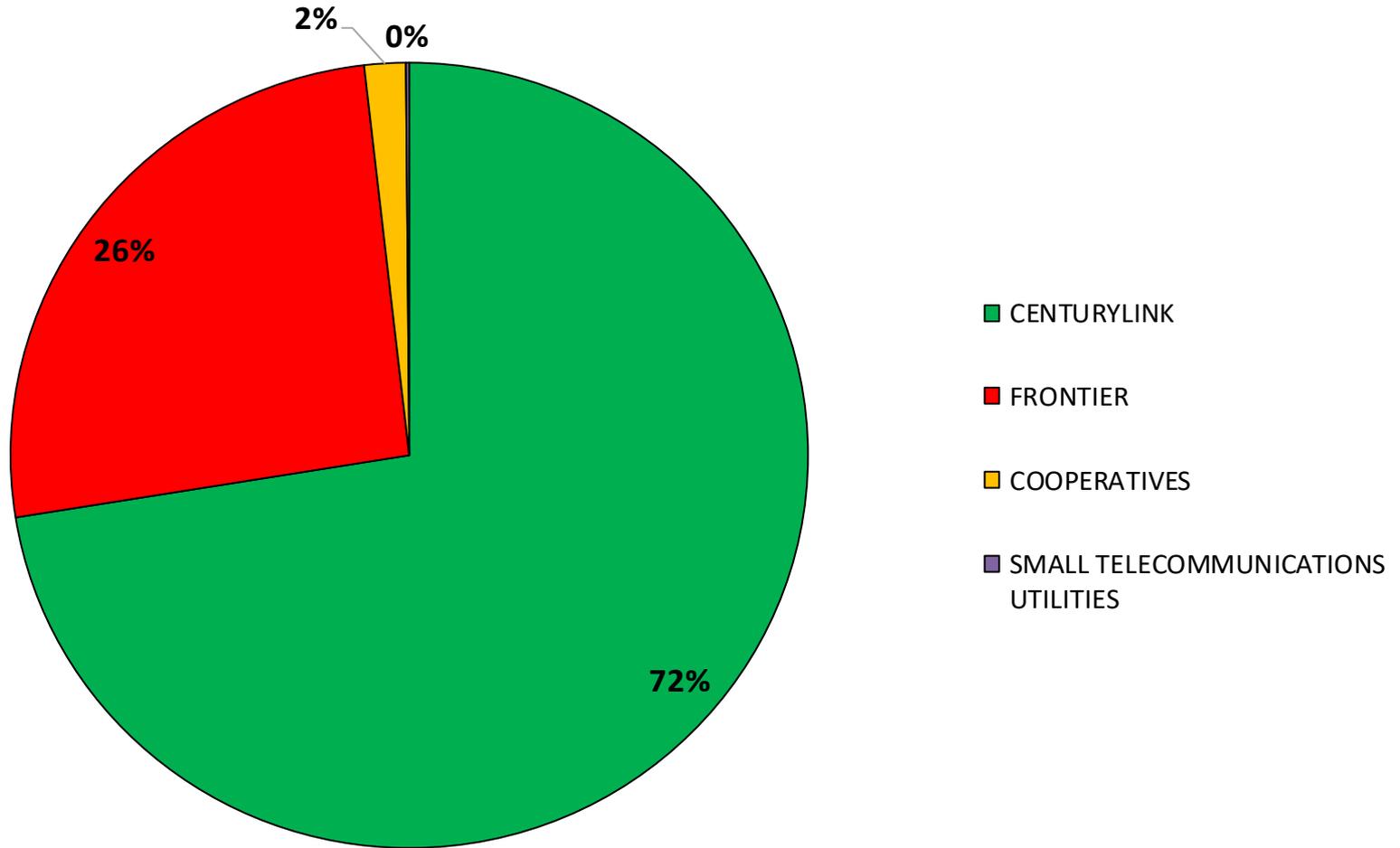
“Territory, population, and housing units that the Census Bureau does not classify as urban are classified as rural. For instance, a rural place is any incorporated place or CDP with fewer than 2,500 inhabitants that is located outside of a UA. A place is either entirely urban or entirely rural, except for those designated as an extended city.

Urban vs. Rural Population per US Census Bureau

Oregon	Population	Population Percentage	Housing Units	Housing Units %	Land Area	Land Area %
Urban	3,104,382	81%	1,328,268	79.3%	1,107	1.2%
Rural	726,692	19%	347,294	20.7%	94,881	98.9%
Total	3,831,074	100%	1,675,562	100.0%	95,988	100.0%

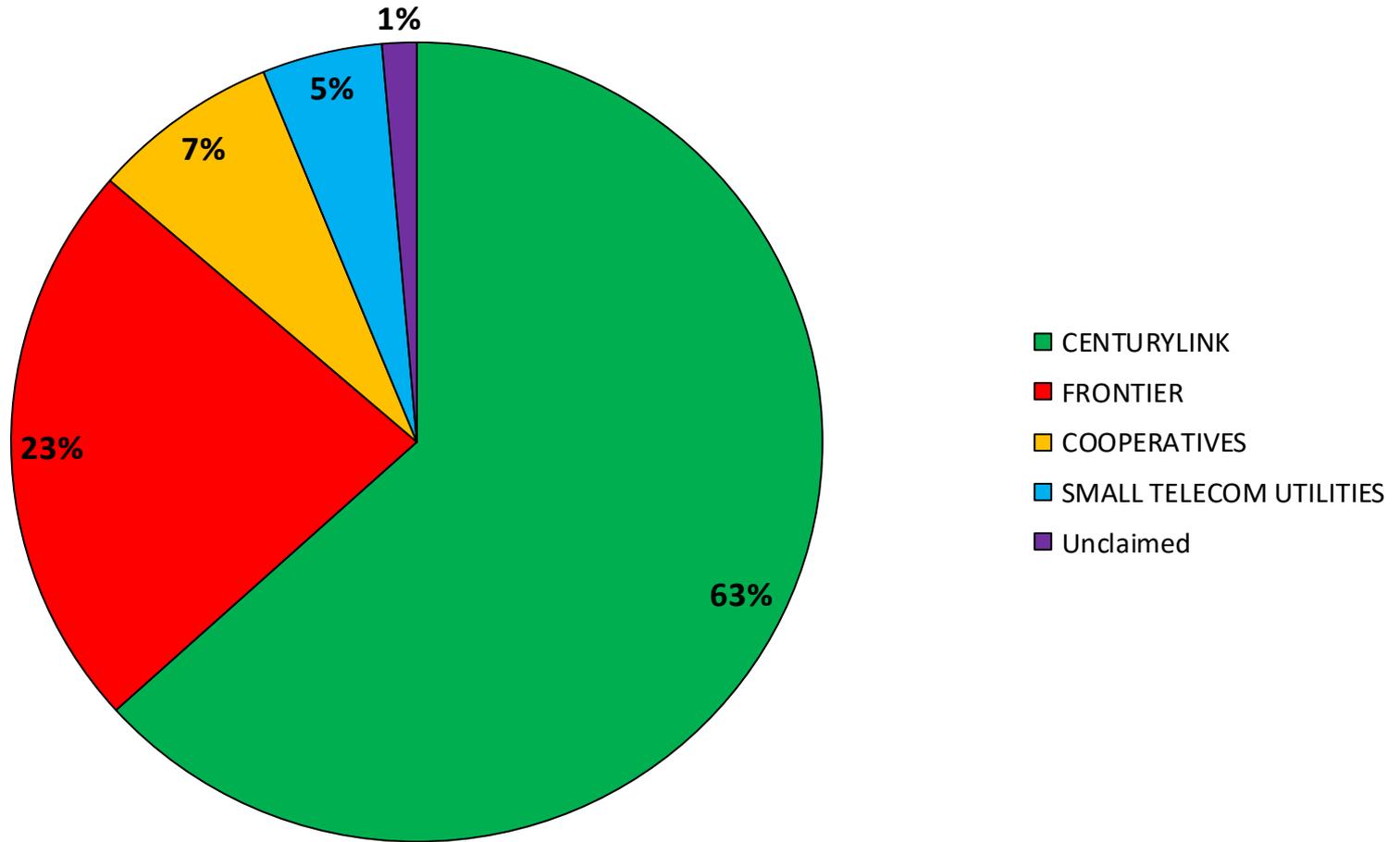
Urban Households served by Oregon ILECs

Portion of Oregon's URBAN households in ILEC Service Territory



Rural Households Served by Oregon ILECs

Portion of Oregon's RURAL Households in ILEC Service Territory



PUC price regulation

Type of Carrier	Price Regulation
Coops	None
Small Telecommunications Utilities	Only if enough subscribers petition
Frontier and CenturyLink	Price caps on some residential svc. Geographic deaveraging prohibited
Competitive Local Exchange Carriers	None
Cable	None
VOIP	None
Wireless	None
Satellite	None

PUC service quality regulation

Type of Carrier	Service Quality Regulation
Coops	None
Small Telecommunications Utilities	OPUC rules
Frontier and CenturyLink	OPUC rules
Competitive Telecom Providers	OPUC rules
Cable	None
VOIP	None
Wireless	None
Satellite	None

Conclusion: The ILECs are not all the same

ILEC type	Price Regulation	Service Quality Regulation	Total Revenue Decline	Revenue from federal and state high-cost support
Coops	None	None	23%	52%
Small Tel	By exception	Full	47%	62%
Frontier	Price caps. Geographic deaveraging prohibited.	Full	60%	5%
CenturyLink	Price caps. Geographic deaveraging prohibited.	Full	61%	5%

Bankruptcy is a trend



ILEC Hawaiian Telecom went bankrupt

Hawaiian Telcom is the ILEC serving the state of Hawaii.

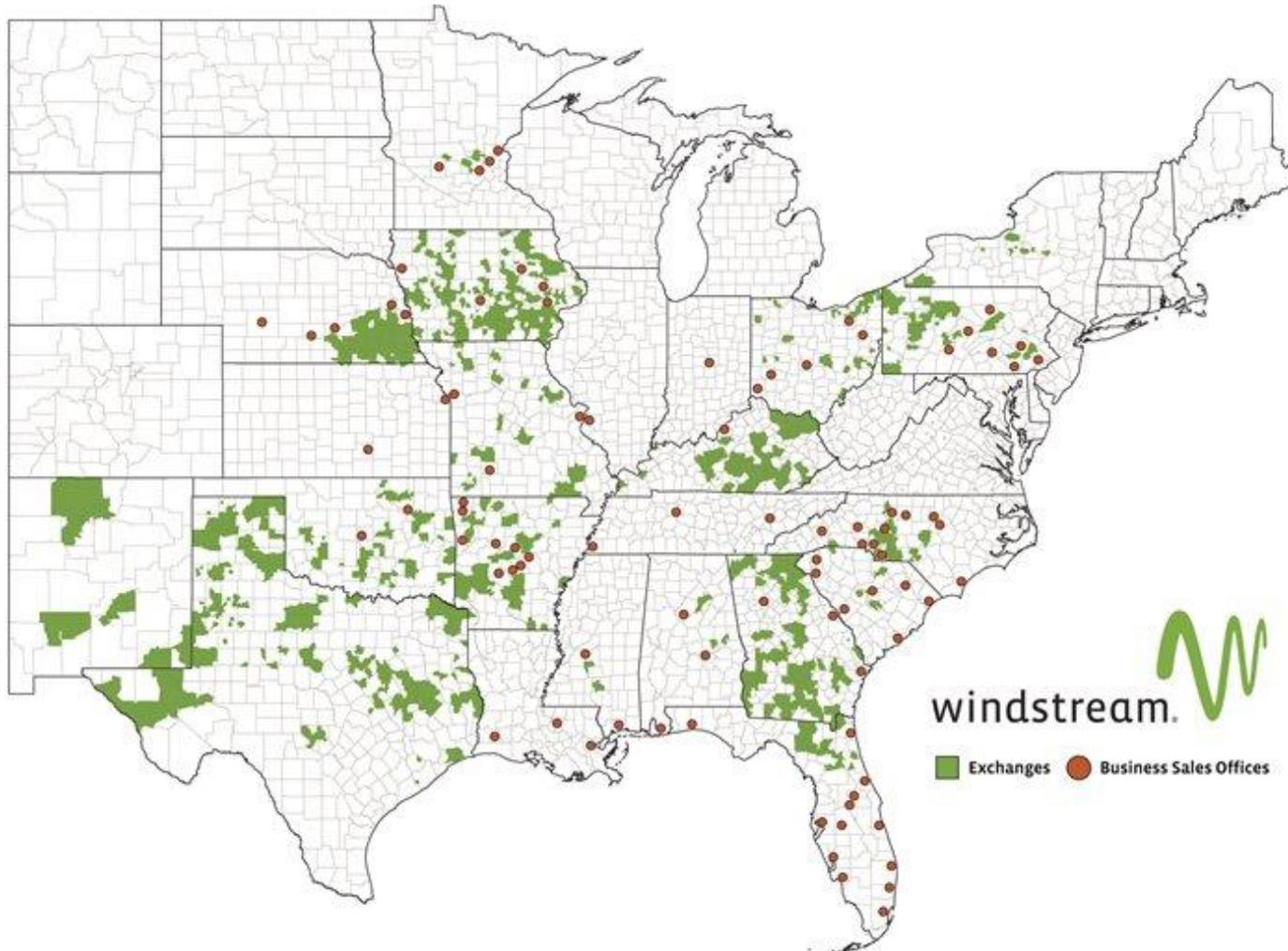
HONOLULU (AP) - **Hawaiian Telcom** Communications Inc. says it's emerged from **bankruptcy** after two years under court-protected reorganization. The company said in a statement Thursday it's now left with \$300 million in debt after cutting liabilities by about \$850 million or 74 percent. Oct 28, 2010

Fairpoint Communications went bankrupt

FairPoint Communications

- ILEC in 17 states
- Became the 8th largest ILEC in the US in 2008 when it bought Verizon's landline operations in the Northeast.
- Filed for Chapter 11 bankruptcy protection in 2009.
- Emerged from Chapter 11 in 2011.
- Purchased by Consolidated Communications in 2017.
- Consolidated Communications reported net losses of \$0.73 and \$0.29 per common share in 2018 and 2019.

ILEC Windstream provides residential service in 18 states



Over 5 years, Windstream lost \$3.2B (\$102 per shr)

2018 FORM 10-K SELECTED FINANCIAL DATA

Selected consolidated financial data for Windstream Holdings is as follows for the years ended December 31:

(Millions, except per share amounts)	2018	2017	2016	2015	2014
Revenues and sales	\$ 5,713.1	\$ 5,852.9	\$ 5,387.0	\$ 5,765.3	\$ 5,829.5
Operating income (loss)	296.6	(1,590.6)	561.0	481.6	611.3
Other (expense) income, net	(4.9)	(2.3)	(24.0)	85.3	(104.1)
Gain on disposal of businesses	145.4	—	—	326.1	—
Net gain (loss) on early extinguishment of debt	190.3	(56.4)	(18.0)	(36.4)	—
Other-than-temporary impairment loss on investment in					
Uniti common stock	—	—	(181.9)	—	—
Interest expense	(901.3)	(875.4)	(860.6)	(813.2)	(571.8)
(Loss) income before income taxes	(273.9)	(2,524.7)	(523.5)	43.4	(64.6)
Income tax expense (benefit)	449.1	(408.1)	(140.0)	16.0	(25.1)
Net (loss) income	\$ (723.0)	\$ (2,116.6)	\$ (383.5)	\$ 27.4	\$ (39.5)
Basic and diluted (loss) earnings per share:					
Net (loss) income	(\$17.72)	(\$62.66)	(\$20.53)	\$1.21	(\$2.24)

Windstream is bankrupt

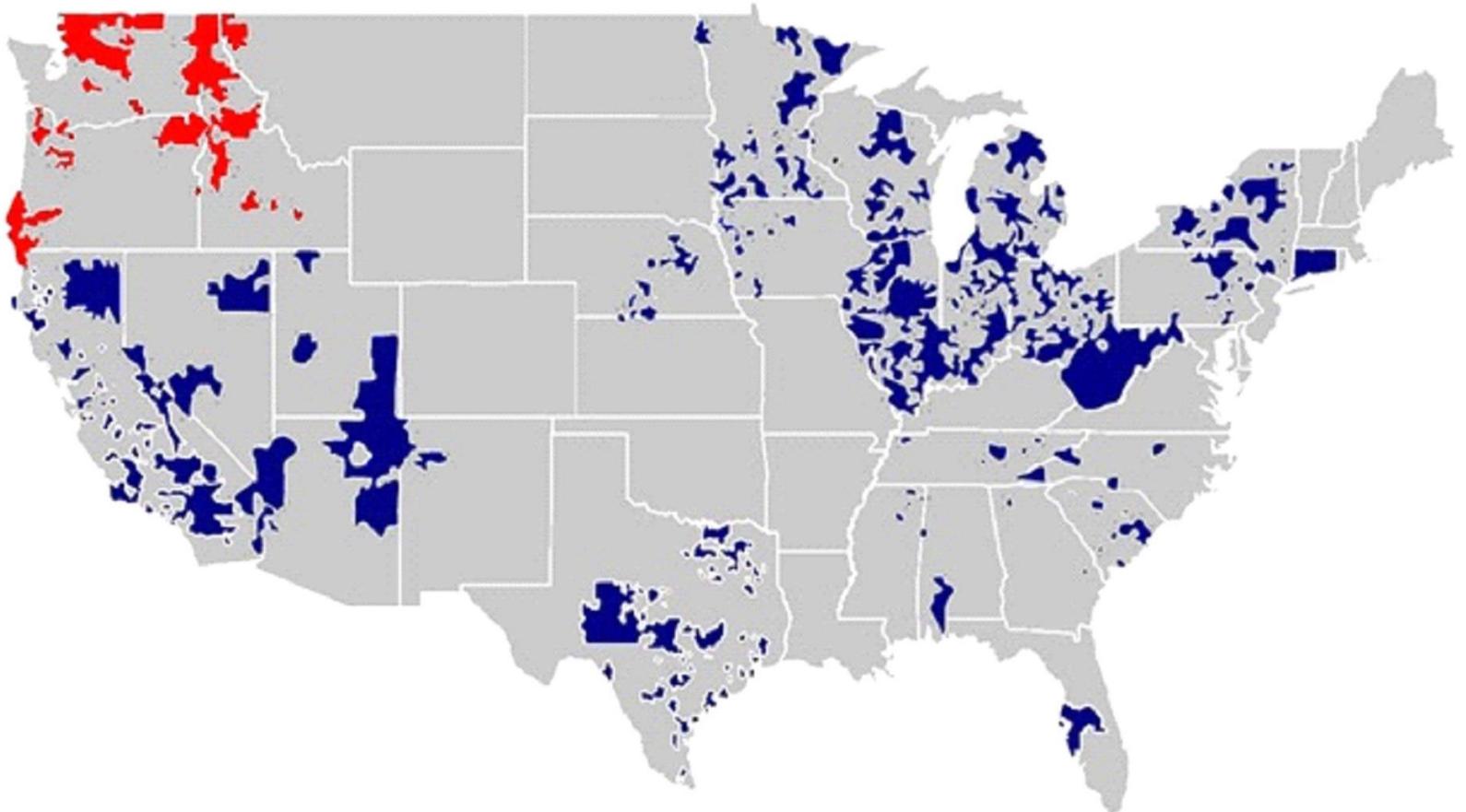
On February 25, 2019 **Windstream filed voluntary petitions for reorganization under Chapter 11** of the U.S. Bankruptcy Code in the U.S. Bankruptcy Court for the Southern District of New York

Windstream lost \$3.1B more in 2019

	Millions except loss per share
Total Revenues and Sales	\$ 5,115.4
Total Cost and Expenses	8,008.4
Operating income (loss)	(2,893.0)
Other income (expense)	(7.8)
Net gain on early extinguishment of debt	(224.4)
Interest expense	(342.1)
Loss before income taxes	(3467.3)
Income tax benefit (expense)	377.3
Net Loss	(3,090.0)
Basic and diluted net loss per share	(\$72.54)

Frontier provided residential service in 29 states

Frontier



Frontier has been generating substantial losses

2019 FORM 10-K
Item 6. Selected Financial Data

FRONTIER COMMUNICATIONS CORPORATION AND SUBSIDIARIES

	Year Ended December 31, ⁽¹⁾				
	2019	2018	2017	2016	2015
<i>(\$ in millions, except per share amounts)</i>					
Revenue ⁽²⁾	\$ 8,107	\$ 8,611	\$ 9,128	\$ 8,896	\$ 5,576
Operating Income (loss)	\$ (4,873)	\$ 827	\$ (1,483)	\$ 911	\$ 766
Net loss ^{(3) (4) (5) (6) (7) (8)}	\$ (5,911)	\$ (643)	\$ (1,804)	\$ (373)	\$ (196)
Net loss attributable to Frontier common shareholders ^{(3) (4) (5) (6) (7) (8)}	\$ (5,911)	\$ (750)	\$ (2,018)	\$ (587)	\$ (316)
Net loss attributable to Frontier common shareholders per basic and diluted share ^{(3) (4) (5) (6) (7) (8)}	\$ (56.80)	\$ (8.37)	\$ (25.99)	\$ (7.61)	\$ (4.41)
Cash dividends declared (and paid) per common share	\$ -	\$ -	\$ 3.42	\$ 6.35	\$ 6.31
Cash dividends declared (and paid) per share of Series A Preferred Stock share	\$ -	\$ 5.560 ⁽⁹⁾	\$ 11.125	\$ 11.125	\$ 6.242 ⁽¹⁰⁾

Frontier filed for Chapter 11 Bankruptcy April 14

Frontier Communications Corp. filed for bankruptcy Tuesday to implement a prearranged \$10 billion debt-cutting proposal backed by the telephone and internet-service provider's bondholders.

The Norwalk, Conn., telecommunications company is the country's No. 7 broadband provider by subscribers and the No. 4 incumbent telephone company after AT&T Inc., CenturyLink Inc. and Verizon Communications Inc., a legacy of the 1984 breakup of the Ma Bell monopoly. Frontier grew quickly over the past two decades by scooping up phone networks that other companies were eager to unload. *Wall Street Journal, May 15, 2020*

Frontier filed for chapter 11 protection...intending to swap \$10 billion of its nearly \$11 billion in unsecured bonds in exchange for 100% equity in the business. The proposal, which is supported by 75% of unsecured bondholders, must be approved by a judge and could be challenged by other creditors.

The bankruptcy filing marks the end of an era during which Frontier Communications racked up roughly \$17.5 billion in debt as part of its expansion campaign. Unsecured bondholders would also receive \$750 million in new debt and \$150 million in cash under Frontier's plan. *Wall Street Journal, May 15, 2020*

Frontier sold its Oregon operations

The company has struggled to maintain its customer base as it competes with other telecommunications companies and has warned about problems for the business arising from its significant debt and limited liquidity. *Wall Street Journal*, May 15, 2020

Carriers of Last Resort

Policy Drivers

The statute imposes COLR obligation selectively

Type of Carrier	COLR obligations
Frontier and CenturyLink	Yes
Small Telecommunications Utilities	Yes
Coops	Yes
Competitive Local Exchange Carriers	No
Cable	No
VOIP	No
Wireless	No
Satellite	No

The COLR designation is a recent development

In 2005 Senate Bill 600 first codified the COLR obligations.

SECTION 25. Sections 26 and 27 of this 2005 Act are added to and made a part of ORS 759.500 to 759.570.

SECTION 26. (1) The purpose of establishing allocated territories under ORS 759.500 to 759.570 is to ensure that telecommunications utilities, cooperative corporations and municipalities certified by the Public Utility Commission to provide local exchange telecommunications service:

- (a) Provide adequate and safe service to the customers of this state; and
- (b) Serve all customers in an adequate and nondiscriminatory manner.

(2) The obligations described in this section may be referenced as carrier of last resort obligations.

Allocated territory = one authorized provider

(1) The purpose of establishing allocated territories under ORS 759.500 to 759.570 is to ensure that

759.500 Definitions for ORS 759.500 to 759.570. As used in ORS 759.500 to 759.570, unless the context requires otherwise:

(1) “**Allocated territory**” 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.

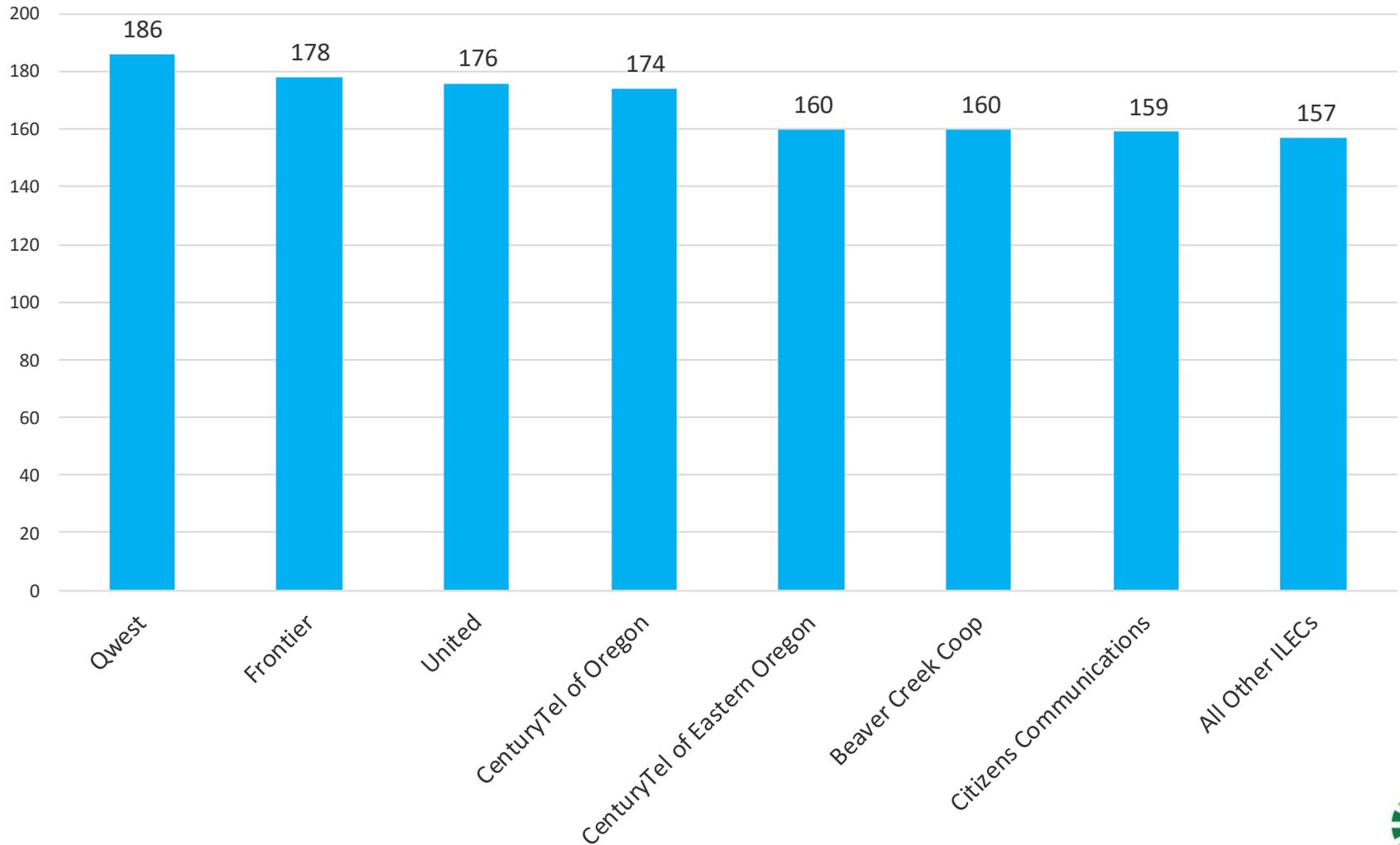
47 USC §253. Removal of barriers to entry

(a) In general

No State or local statute or regulation, or other State or local legal requirement, **may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.**

The Commission has authorized many competitors

Count of wireline providers the OPUC has authorized to provide local exchange service

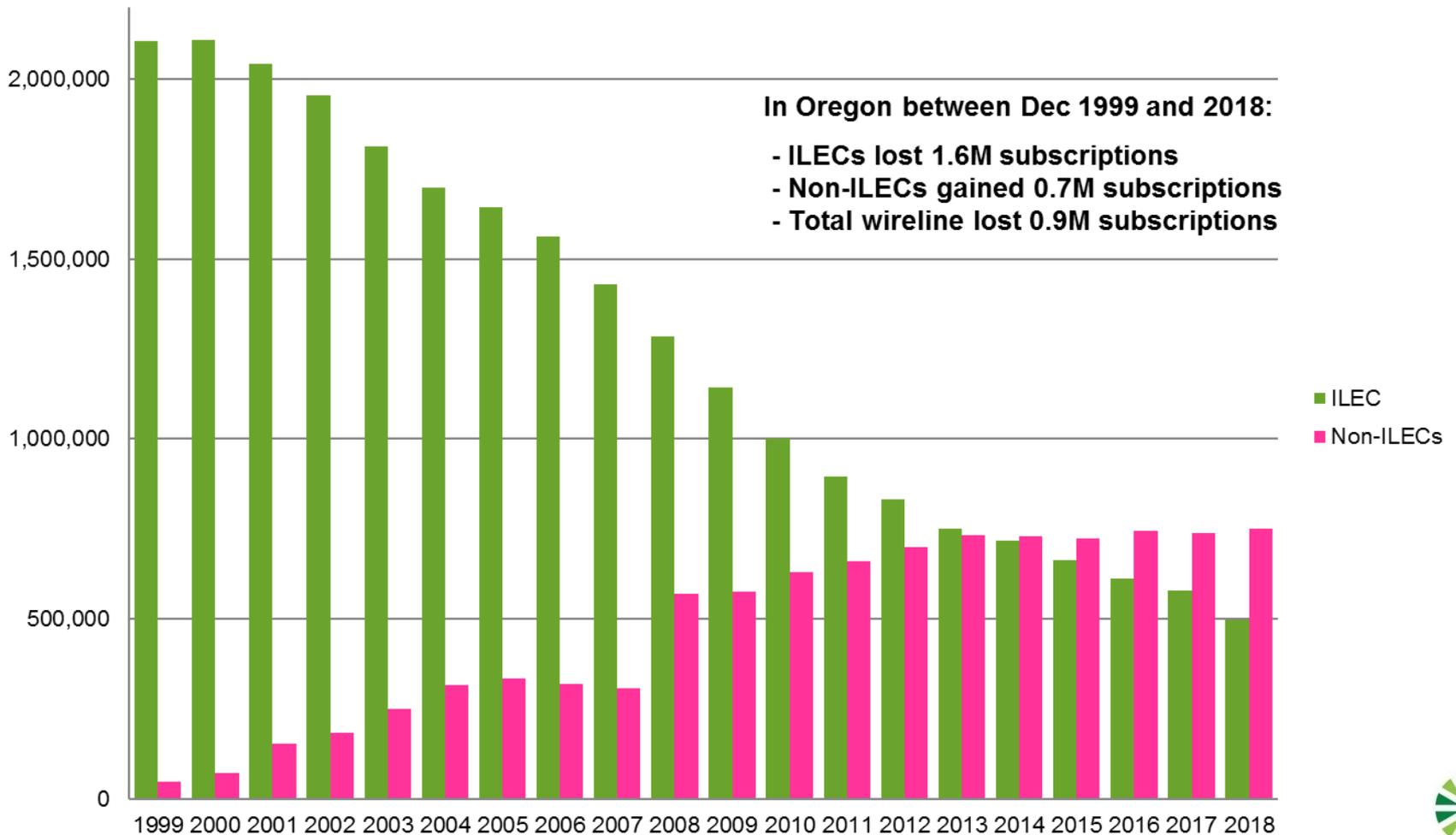


The Commission allows other COLR competition

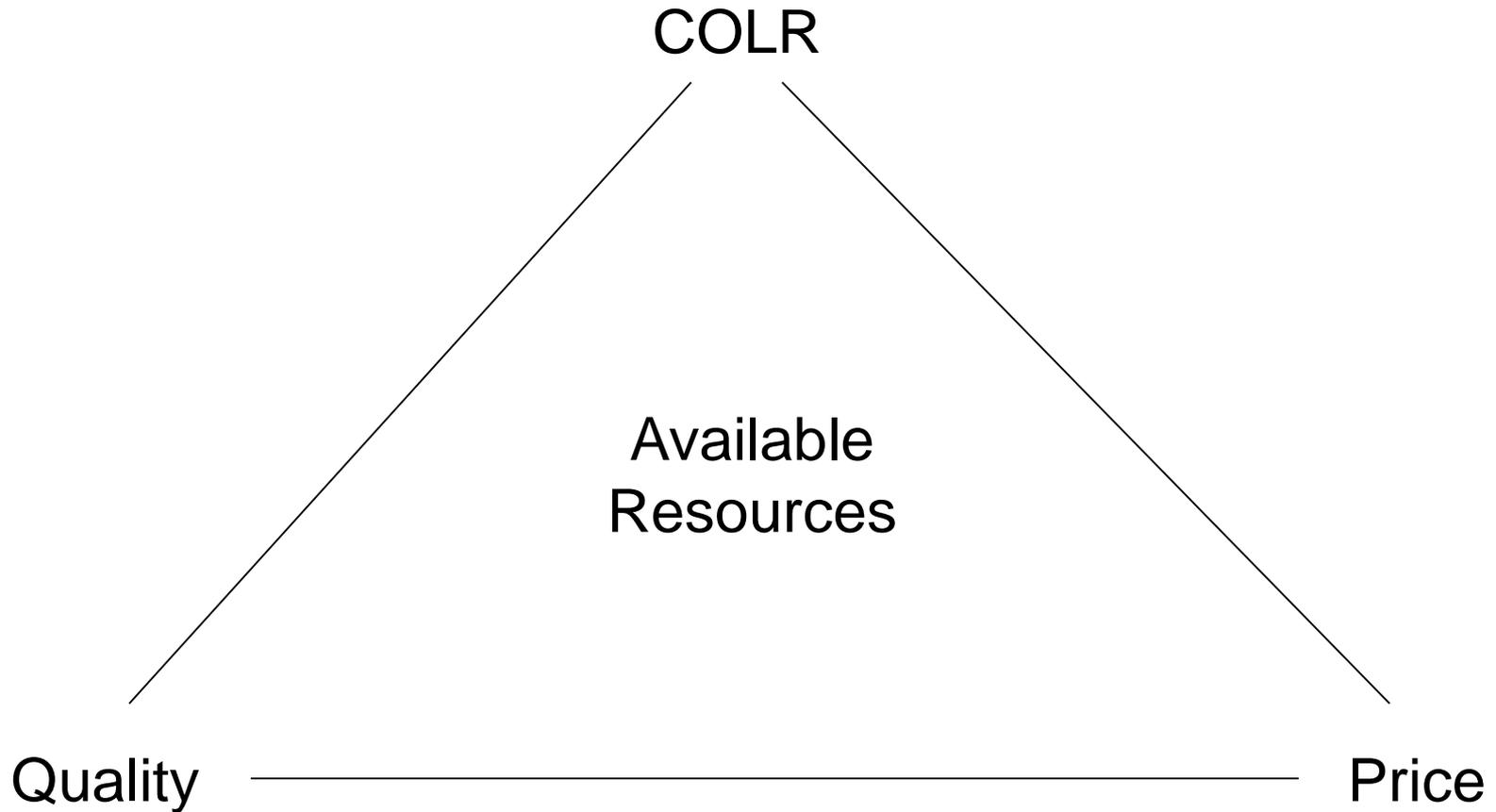
Carrier approved	COLR Territory	Type of approval
Warm Springs Telecom	Statewide	OUSF Support
Comspan Communications	FTR, QC, Citz, CTel	OUSF Support
Douglas Services	Statewide	OUSF Support ETC Designation
Oregon Tel (MTE)	Statewide	ETC Designation
10 Wireless providers	Statewide	ETC Designation
Viasat	CenturyLink & Frontier	ETC Designation

The ILECs' wireline competitors now dominate

All Oregon Wireline Oregon Access Lines per FCC Reports



COLR competes with other objectives for resources



End of Presentation

Thank you for this opportunity to share information.

The slides that follow touch on a few other subjects Staff suggested:

- Current Technology – VOIP
- Policy Drivers – FCC Decisions – Results of CAF II reverse auction
- Current Technology – Satellite – ETC Certification Granted
- Policy Drivers – FCC Decisions – Rural Digital Opportunity Fund
(Staff commentary: “Removing market entry barrier related to universal service subsidy”)
- Policy Drivers – FCC Decisions – Price Deregulation of UNE and other elements (Staff commentary: Removal of basis for non-facilities based competition)
- Industry Trends – Consolidation of providers through mergers and acquisitions

What is Interconnected VoIP?

The FCC's rules (at 47 C.F.R. § 9.3) state:

An interconnected Voice over Internet Protocol (VoIP) service is a service that:

- (1) Enables real-time, two-way voice communications;
- (2) Requires a broadband connection from the user's location;
- (3) Requires Internet protocol-compatible customer premises equipment (CPE); and
- (4) Permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network.

We note that the current interpretation of element (4) of the definition excludes certain VoIP services (e.g., those offered by Skype) and subscribers to those services are not reported on Form 477.

Oregon Voice Subscriptions by Technology

Provider	Switched Access Lines	Over-the-top Interconnected VoIP Subscriptions	Other Interconnected VoIP Subscriptions	Total Wireline
ILECs	413,000	-0-	84,000	497,000
Non-ILECs	100,000	106,000	544,000	750,000
Total	513,000	106,000	628,000	1,247,000

Connect America Fund Phase II Auction (2018)

Oregon CAF II Auction Winners

Oregon Winners	Total Assigned Support Over 10 Years	Number of Locations Assigned	Support per Assigned Location
VSI (parent of Viasat)	\$10.2M	9,946	\$1,031
Rural Electric Cooperative Consortium	\$3.5M	533	\$6,521
Total	\$13.7M	10,479	\$1,310

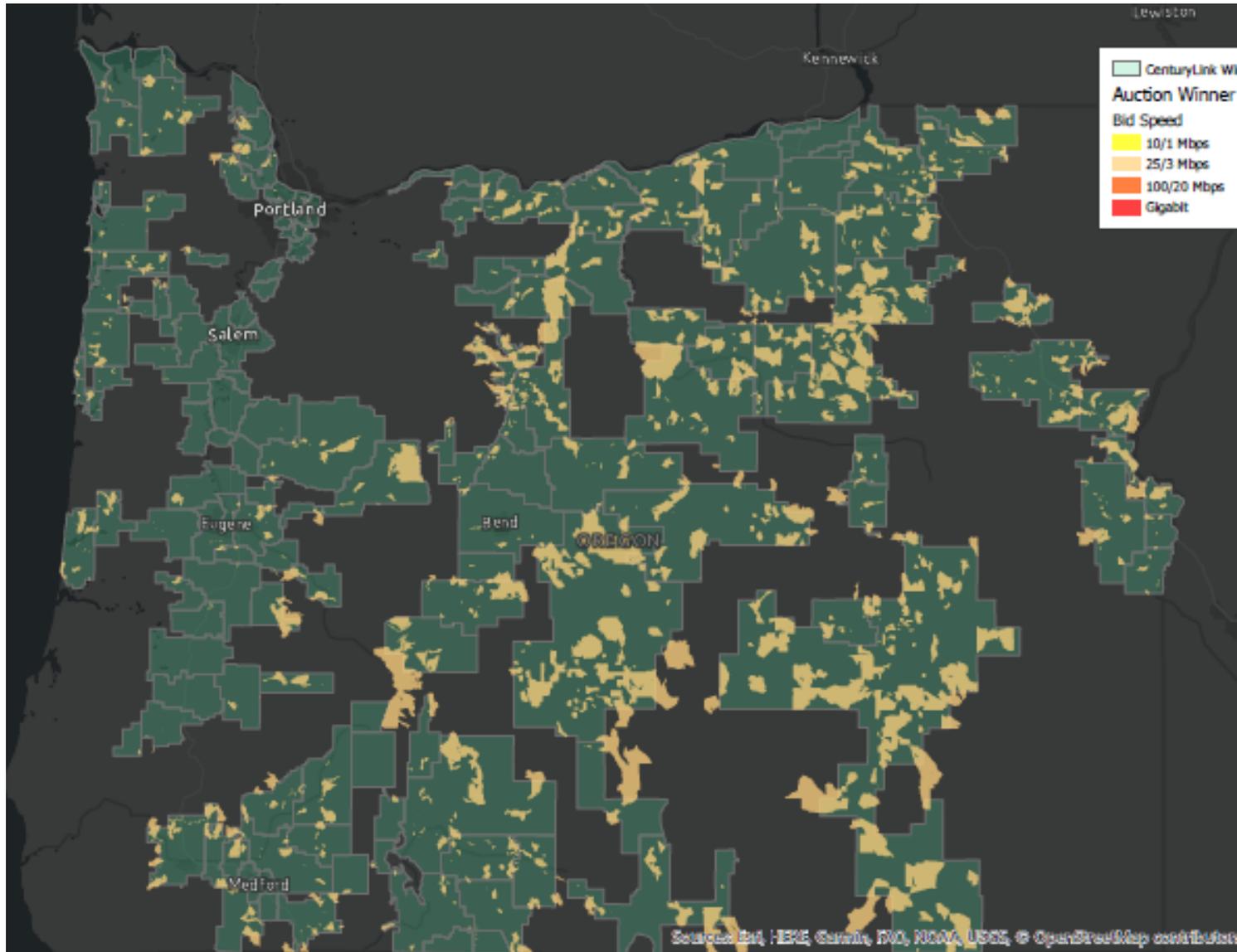
Satellite service awarded federal high-cost support

Viasat's parent, VSI, operates satellite and terrestrial networks that provide broadband and voice services to 600,000 residential customers in all fifty states.

In the FCC's CAF II auction VSI won \$10.254 million of federal high-cost funding over ten years to be used to bring broadband and voice services to almost 10,000 Oregon households and small businesses in 3,105 Oregon census blocks where top speeds for internet access are less than 10 Mbps.

In November 2019 the Oregon PUC designated Viasat as an Eligible Telecommunications Carrier (ETC) qualified to receive the federal support awarded to VSI.

Viasat CAF II coverage



FCC Rural Digital Opportunity Fund (future)

RDOF replaces the expiring Connect America Fund (CAF).
\$20.4B of funding over 10 years. Phase I

- “Multi-round, reverse, descending clock auction” similar to CAF II auction targeted to census blocks lacking 25/3 broadband.
- Up to \$16 billion over 10 years for broadband and voice services to fixed locations in eligible unserved high-cost census blocks.
- FCC expects bidding to begin October 22, 2020
- Bidding open to all qualified providers; large carriers do not get first right of refusal as in CAF II.

FCC Rural Digital Opportunity Fund (future)

Key Observations

- There are many more eligible locations than in CAF II.
- Most of the funding is still available in CAF II areas, however.
- Fiber to the home services are favored.
- Satellite services are strongly disfavored.
- There is a new fixed-wireless oriented speed tier of 50/5.
- CAF II carriers receive a 7th full year of funding in 2021.
- The draft is much improved over the NPRM:
 - Most of the risk of changing location counts has been mitigated.
 - No subscription/take-rate requirements.
 - Substantially reduced Letter of Credit obligations.
- Leaves Price-Cap carriers as unfunded backstop for voice.

FCC Rural Digital Opportunity Fund (future)

RDOF Terms and Conditions

\$20.4 billion budget over a 10-year term

- Phase 1 = \$16 billion
- Phase 2 = \$4.4 billion + any left over from Phase 1

A “top-down” description that covers the vast majority of the eligible area is: price-cap areas not claimed in CAF II auction, that are not served by terrestrial voice and 25/3 Mbps broadband (from same provider), and with CAM estimated cost of \$40+/location (or \$30+ if tribal or unserved at 10/1)

Initial pre-auction funding levels (“reserve prices”) for each census block will be: (number of locations) * (the smaller of \$212.50 or (CAM estimated cost per location - \$40))

FCC Rural Digital Opportunity Fund (future)

Service possibilities, and bidding weights are:

- 25/3 Mbps: +50
- 50/5 Mbps: +35
- 100/20 Mbps: +20
- 1 GB / 500 Mbps: 0
- High latency (at any speed): +40 in addition to speed weight

Deployment milestones:

- Year 3 = 40% of initial location count
- Year 4 = 60%
- Year 5 = 80%
- Year 6 = 100% of initial location count or revised location count, whichever is lower
- Year 7 = catch-up to hit final count if lower than initial
- Year 8 = 100% of revised location count if higher than initial count

FCC Rural Digital Opportunity Fund (future)

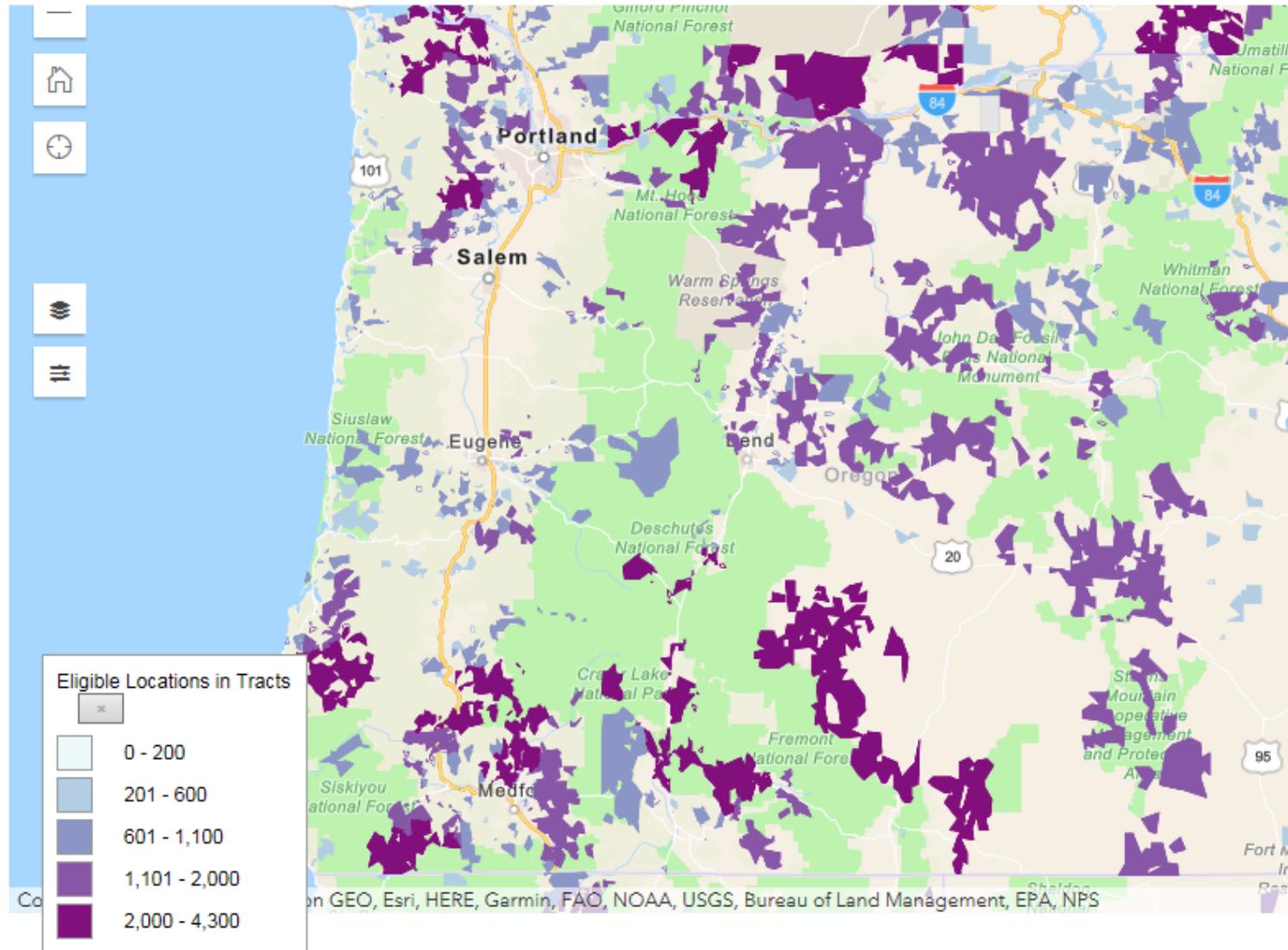
Changes in number of eligible locations

- No reductions in funding where there are fewer locations, unless reduction is $> 35\%$.
- Obligation to serve additional locations unless doing so would require additional backhaul or significant network construction.
- Must serve locations added after year 6 upon reasonable request.

Reporting and interim non-compliance requirements are the same as for CAF II:

- Tier 1 (5%-15% under milestone): quarterly reporting
- Tier 2 (15%-25%): quarterly reporting + 15% withholding going forward
- Tier 3 (25%-50%): quarterly reporting + 25% withholding
- Tier 4 (50+% under milestone): quarterly reporting + 50% withholding for 6 mos. & 100% withholding thereafter + 10% penalty of all funding received

Auction 409 Initial Eligible Areas, 17 March 2020



FCC deregulation of DS1 and DS3 transport

Under federal law, certain legacy telephone companies are designated “price cap incumbent local exchange carriers” (Price-Cap ILECs).

Oregon’s Price Cap ILECs are CenturyLink and Frontier.

In July 2019, the FCC unanimously granted partial relief from requirements that Price-Cap ILECs provide their competitors with legacy transport facilities—known as DS1 and DS3 transport—on an unbundled basis at regulated rates.

FCC deregulation of UNEs and resale

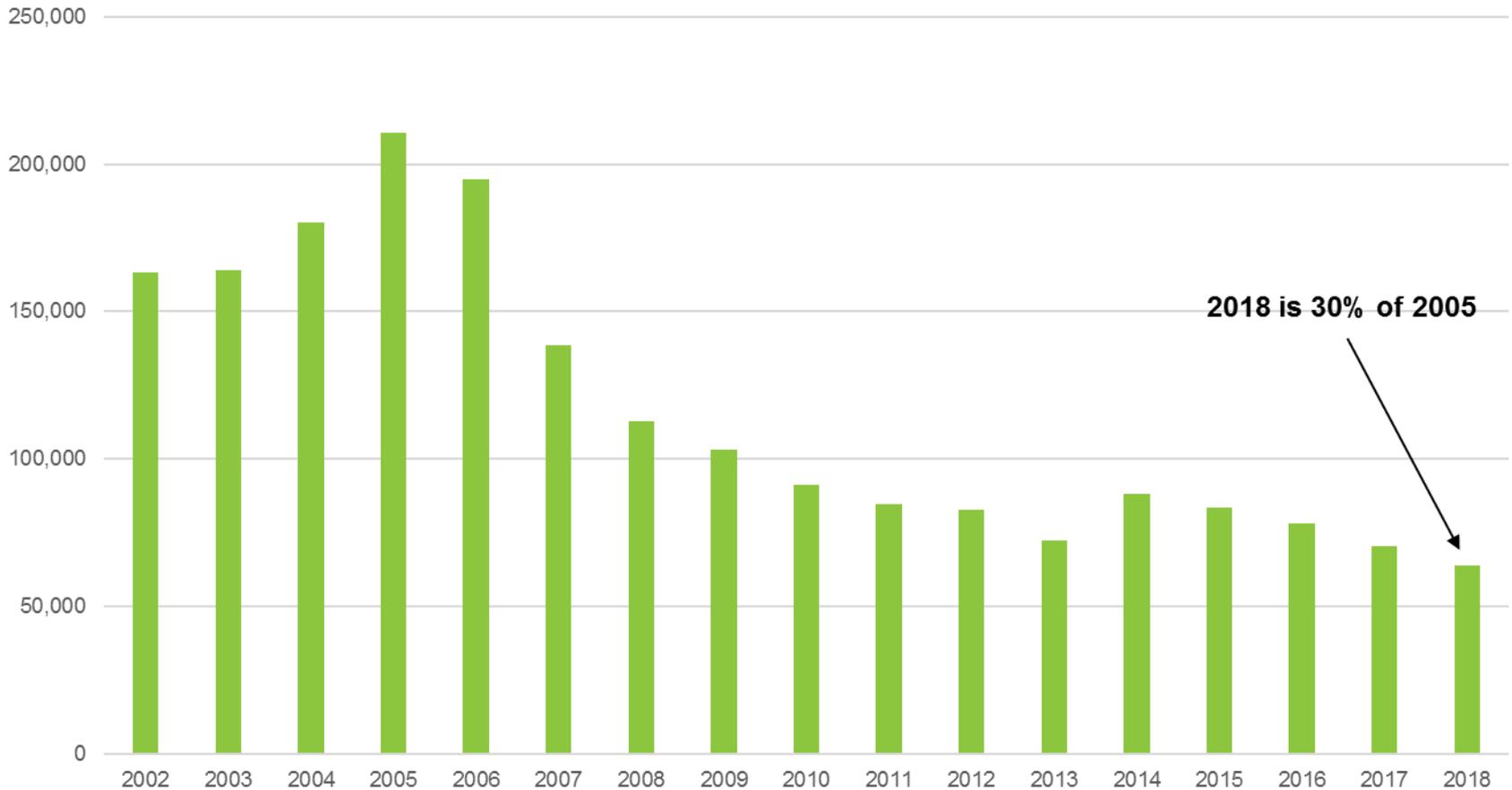
In August 2019 the FCC granted Price Cap ILECs relief from what the FCC described as “outdated and burdensome requirements from the Telecommunications Act of 1996 designed to foster competition in the market for local telephone service...”

The relief is from a requirement that Price Cap ILECs:

1. offer competitors “analog voice-grade copper loops” on an unbundled basis (Unbundle Network Elements or “UNEs”) at regulated rates and
2. offer legacy services for resale at regulated rates.

Sales of wholesale services has been in decline

Oregon Incumbent Local Exchange Carriers (ILECs) UNE NACs
Data from annual Oregon Utility Statistics reports



Industry consolidation (and one spinoff)

Pacific Northwest Bell → US West

Telephone Utilities of Oregon → CenturyTel

Telephone Utilities of Eastern Oregon → CenturyTel

US West → Qwest

Malheur Home Tel → Qwest

United → CenturyLink

Qwest → CenturyLink

Level 3 → CenturyLink

Citizens → Frontier

Mt. Angel Tel Co → Canby Tel Assn

Spinoff: Frontier → Northwest Fiber