LOCAL TELECOMMUNICATIONS COMPETITION SURVEY

2014 ANNUAL REPORT

Staff Report

Public Utility Commission of Oregon

December 2014

TABLE OF CONTENTS

Executive Summary

The staff of the Public Utility Commission of Oregon (OPUC) sent its survey in January 2014 to the 259 certified local exchange carriers (LECs) in Oregon for the purpose of assessing the status of local telephone competition in Oregon. The survey asked all carriers, both incumbent local exchange carriers (ILECs) and competitive local exchange carriers (CLECs), to report information regarding the local services they provided in 2013. Staff received survey responses from all 32 ILECs and 210 out of 227 CLECs, for a total response rate of 93.4 percent.

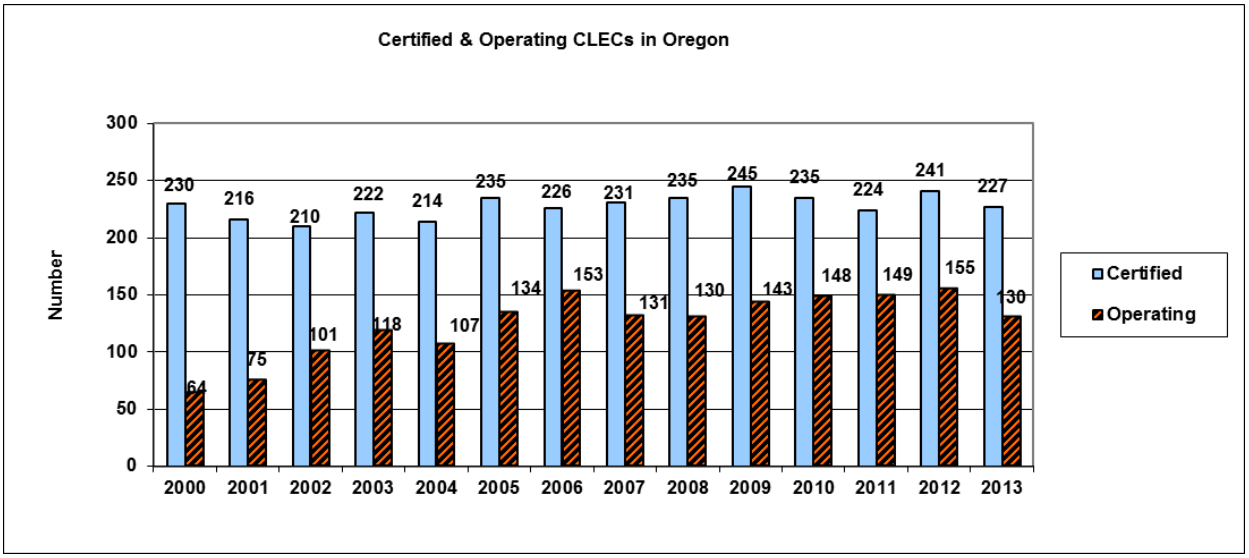
HIGHLIGHTS

2013 Highlights	$ Millions	% Change	% Share
Oregon Local Exchange Service Revenues	**608.7**	**-13.0%**	
ILEC Revenue	422.6	-15.1%	69.4%
CLEC Revenue	186.0	-7.8%	30.6%
	000's	**% Change**	**% Share**
Total Switched Lines at year end	**1,436.7**	**-6.8%**	
ILEC Lines	838.1	-7.1%	58.3%
CLEC Lines	598.6	-6.4%	41.7%
Total Residential Switched Lines at year end	**846.7**	**-4.3%**	
ILEC Residential Lines	468.4	-10.9%	55.3%
CLEC Resdiential Lines	378.3	5.3%	44.7%
Total Business Lines at year end	**479.2**	**-11.6%**	
ILEC Business Lines	261.2	-7.5%	54.5%
CLEC Business Lines	218.0	-16.1%	45.5%
Total Wholesale Switched Lines at year end	**110.8**	**-2.9%**	
ILEC Wholesale Lines	108.6	15.8%	98.0%
CLEC Wholesale Lines	2.2	-89.0%	2.0%
UNE and UNE-P Equivalent Lines	**206.3**	-6.3%	
Total number of Private Line Circuits	**14.0**	-17.4%	
Lower Capacity Circuits	8.6	-22.5%	
Higher Capacity Circuits	5.5	-7.9%	
Total Number of Digital Subscriber Lines	**365.2**	**1.8%**	
CLEC Interconnect VoIP Lines	**396.7**	7.3%	
CLECS with certificates	227		
CLECS doing business	130		57.3%

Note: Total ILEC and CLEC revenues in this report are limited to switched access, intrastate private line and xDSL services.

In 1998 there were 101 certified CLECs in Oregon, however only 22 of them were in operation. By 2000, there were 230 certified CLECs with 64 of them providing services. In 2013 the number of certified CLECs is 227, a slight decrease from 2012. The number of operating CLECs has dropped from 155 to 130. Figure 1 shows the trend in CLEC certifications from 2000 to the present.

CLEC Certificate Trends 2000 through 2013
Figure 1



As of December 2013 130 of the 227 (57.3 percent) of the certified CLECs reported providing local exchange services; this is down from the year prior when 64.3 percent reported that they were providing local exchange service. Using each group's percentage of local switched telephone lines, a widely recognized measure of market share, CLEC market share of total residential and business lines was 41.7 percent in 2013, which is virtually equal to last year's 41.5 percent.[1]

Until 2007, CLEC residential market shares remained relatively stable in the lower single-digit percentile range. That year the CLEC Residential market share hit 12.1 percent and has been steadily climbing since then. In 2013 the CLEC share of the market increased to 44.7 percent. The CLEC's residential market share increase was due primarily to the entry of cable companies. In addition there has been a significant drop in overall landline numbers, as a result of more customers dropping landlines altogether in favor of wireless-only households. Beginning in 2007, cable companies began to dramatically win over ILEC landline customers with their telephone service

[1] This value reflects the inclusion of the Comcast and Charter data that was not available last year.

provided through fixed interconnected VoIP. Because the cable companies' service is a close substitute for traditional switched access, this year we have included these line counts and revenues in the CLEC local exchange switched access categories. The cable companies' fixed interconnected VoIP lines are also counted in the VoIP category.

Data regarding cable telephony CLECs is derived from two sources: VoIP subscription counts are taken from the FCC Form 477 report, and revenues are taken from the Oregon Universal Service reports. In prior years these counts were not available, but this year we have included these counts for this year and revised the historical data back to 2007 when cable operators began noticeably affecting the telephone market.

This year CLECs had a 44.7 percent share of the Oregon residential market in 2013, up from 40.6 percent last year. The bulk of this market share is comprised of cable competitors, rather than traditional CLECs, which have largely exited the residential market. They also had a 45.5 percent share of the business market, which was slightly down from 47.6 percent in the prior year.

Total Oregon LEC switched local exchange lines, which includes residential and business ILEC and CLEC lines, declined 6.8 percent in 2013, from 1.542 million lines in 2012 to 1.436 million lines in 2013. The decline is largely a result of more wireless-only residential customers, and business customers migrating to VoIP services (that are not provided by cable companies).

Survey Overview

The following table summarizes the Survey response rates and service operation rates. The first block of the table shows the number of respondents, while the second block shows the number of respondents who actually provide some type of telecommunications service in Oregon.

Survey Response Rates and Service Operation Rates

Table 1

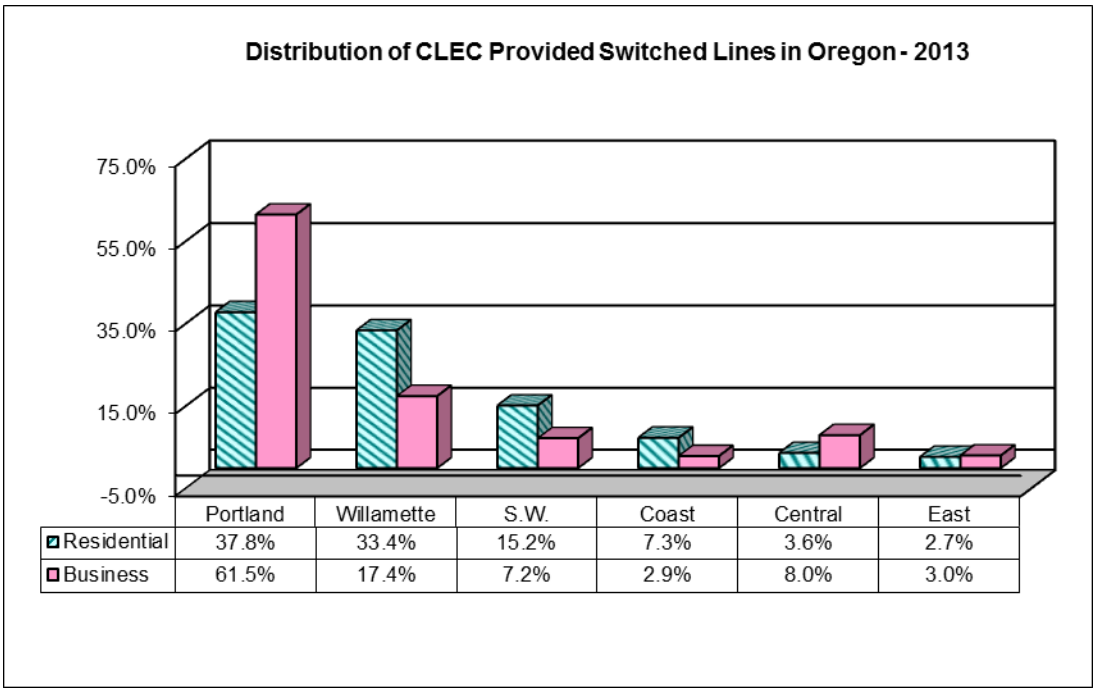
2013	Surveys Sent	Responses	Response Rate %
Total LECs	259	241	93.1%
ILECs	32	32	100.0%
CLECs	227	209	92.1%
	Surveys Sent	**Service Provided**	**Operation Rate %**
Total LECs	259	162	62.5%
ILECs	32	32	100.0%
CLECs	227	130	57.3%

Competitive entry into Oregon's market for local telecommunications services varies by region and the type of service being provided. Business lines comprise about 36.4 percent of total the lines served by CLEC. Sixty-one (61) percent of CLECs' business switched lines are provisioned in the Portland region, with lower provisioning levels in the Willamette Valley, the Southwest, Central, Coast, and East regions.

Residential lines comprise 58.9 percent of the 1.44 million switched access lines served by all local exchange carriers. CLECs served 44.7 percent of these lines, and ILECs served the remaining 55.3 percent. About 38 percent of all CLEC residential lines were in the Portland area. The following figure (Fig. 18) shows how the residential and business lines served by the CLECs is distributed across the regions.

Distribution of CLEC Switched Access Lines by Region

Figure 2



	Portland	Willamette	S.W.	Coast	Central	East
Residential	37.8%	33.4%	15.2%	7.3%	3.6%	2.7%
Business	61.5%	17.4%	7.2%	2.9%	8.0%	3.0%

Approximately 61.5 percent of CLEC business lines and 37.8 percent of CLEC residential lines were in the Portland Metropolitan area. The above chart also shows the concentration of both residential and business lines in the Portland and Willamette regions. These two regions encompass the Interstate-5 corridor from Portland to Eugene.

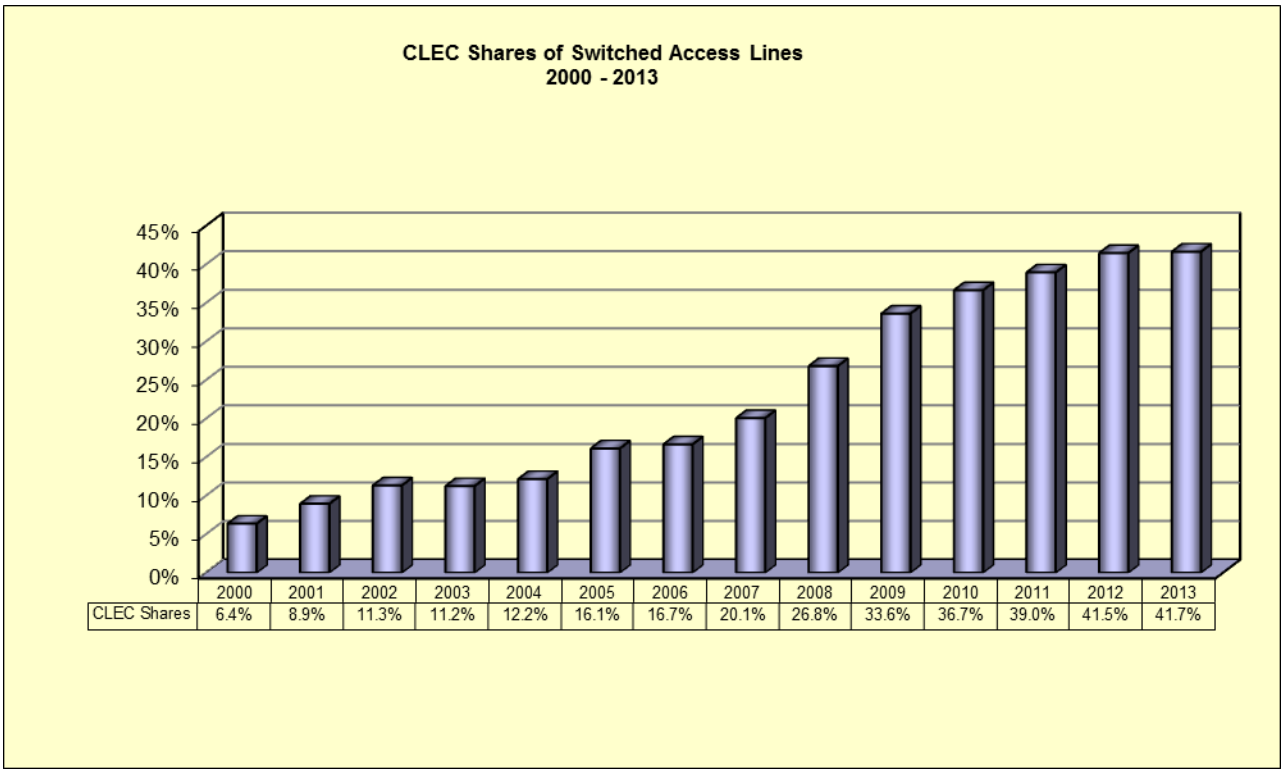
The following chart shows how the CLEC's share of switched access lines has grown from 2000, when it was approximately 6.4 percent, to the present where it is now 41.6 percent. The number of CLEC lines in Oregon declined by 6.4 percent in 2013, from 639,438 (in 2012) to 598,576. By comparison, total ILEC lines declined by 7.1 percent in 2013, from 902,114 (in 2012) to 838,130 lines.

For residential and business switched access lines, Oregon CLECs' 41.7 percent market share compares to the national CLEC average of 43.6 percent. (see *FCC Table 1 – Total End-User Switched Access Lines and VoIP Subscriptions, as of December 31, 2013*). CLECs had 44.7 percent of the residential market in Oregon compared with 50.1 percent nationally. In the business market, CLECs' share was 45.5 percent in Oregon compared to 45 percent nationally.[2] (*FCC, Table 11*)

CLEC Share of Switched Access Lines: 2000 – 2013

[2] Federal Communications Commission (FCC) Local Telephone Competition. **10/2014 Release.** As of 12/31/2014. Tables (Excel Format). http://transition.fcc.gov/wcb/iatd/comp.html

Figure 3



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CLEC Shares	6.4%	8.9%	11.3%	11.2%	12.2%	16.1%	16.7%	20.1%	26.8%	33.6%	36.7%	39.0%	41.5%	41.7%

II. Purpose of the Survey

The purpose of the survey is to collect information from incumbent and competitive local exchange carriers to determine the status of competition for certain local exchange services in Oregon. The survey collects data on five major types of services: local exchange switched access; intrastate private line; xDSL; and Unbundled Network Elements (UNE's), and resale service. This study was a key component of the 1999 Oregon legislation requiring the Public Utility Commission to report on telecommunications issues.

III. Survey Participants and Responses

In January 2014, Commission staff sent a survey to all 259 carriers holding a certificate issued by the Commission to provide local services in Oregon. Of the 259 LECs, 32 are ILECs, and 227 are CLECs. The ILECs are the traditional local telephone service providers in the state. ILECs are statutorily designated as "carriers of last resort," meaning they have the obligation to provide service to any customer within its service territory that asks. CLECs compete with the traditional local service providers. The survey asked each LEC to provide information regarding their operations in 2013.

All 32 ILECs responded to the survey. For CLECs, 210 out of the 227 (92%) responded. The overall response rate for all LECs was 93.1 percent (Table 1). In 2013, 62.5 percent of all certified carriers were actually providing services. This is slightly down from 68.5 percent providing service in 2012 All 32 ILECs and 57.3 percent of CLECs (130 out of 227) provided services in 2013. This analysis assumes non-responding CLECs in each year did not provide local service in Oregon in that year.

Table 1. Survey Response Rates and Service Operation Rates

2013	Surveys Sent	Responses	Response Rate %
Total LECs	259	241	93.1%
ILECs	32	32	100.0%
CLECs	227	209	92.1%
	Surveys Sent	**Service Provided**	**Operation Rate %**
Total LECs	259	162	62.5%
ILECs	32	32	100.0%
CLECs	227	130	57.3%

IV. Service Types

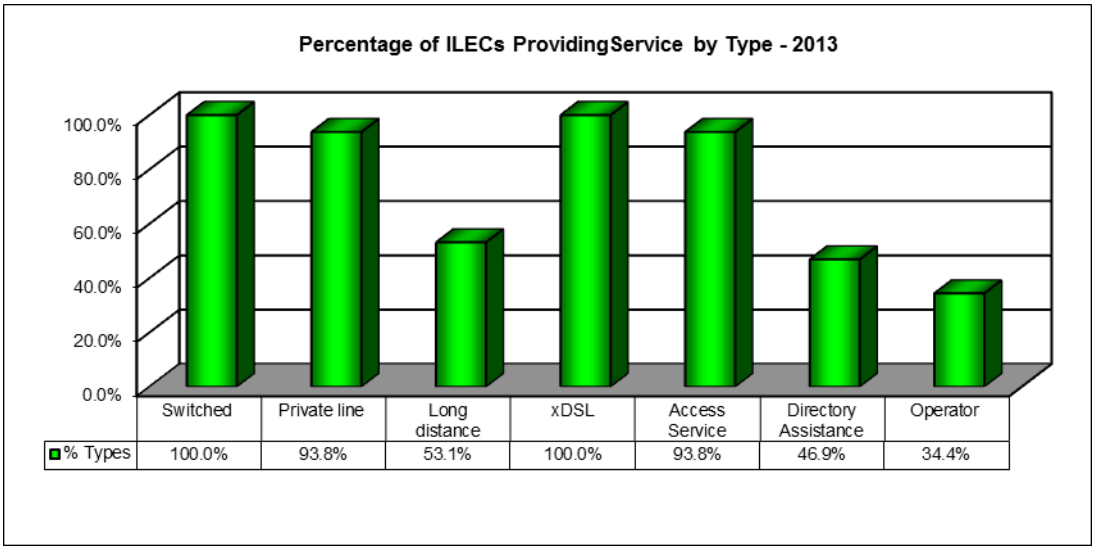
1. ILEC Service Types

Services provided by Incumbent Local Exchange Carriers (ILECs) include local (toll-free) calling, directory listings, and various features such as call waiting and caller ID. Local exchange private line is dedicated, point-to-point high speed service provided to businesses. The vast majority of private line services are considered *interstate*, and are under the jurisdiction of the FCC. Only *intrastate* – private lines that originate and terminate within the state of Oregon - private line service data is collected in this survey. Table 2 below, illustrates the various services and percentages of service types that are provided by ILECs.

Table 2. ILEC Market Coverage by Service Category

Service Types	# of ILECs Providing Service	% of ILECs Providing Service
Local Exchange Switched Service	32	100.0%
Local Exchange Private Line Service:	30	93.8%
Lower Capacity	29	90.6%
Higher Capacity	25	78.1%
Long Distance Service	17	53.1%
xDSL (Digital Subscriber Line)	32	100.0%
Access service	30	93.8%
Directory Assistance	15	46.9%
Operator	11	34.4%
Telecom using Cable TV Facilities	0	0.0%
Telecom using VoIP	0	0.0%
Others	2	6.3%

Figure 1. ILEC Service Types and Distributions



As the above graph demonstrates, in 2013 all 32 ILECs provided switched access and xDSL service; 93.8 percent provided private line service; 53.1 percent provided long distance service; 93.8 percent provided access service to long distance or interexchange carriers; 46.9 percent provided directory assistance service; and 34.4 percent provided operator service.

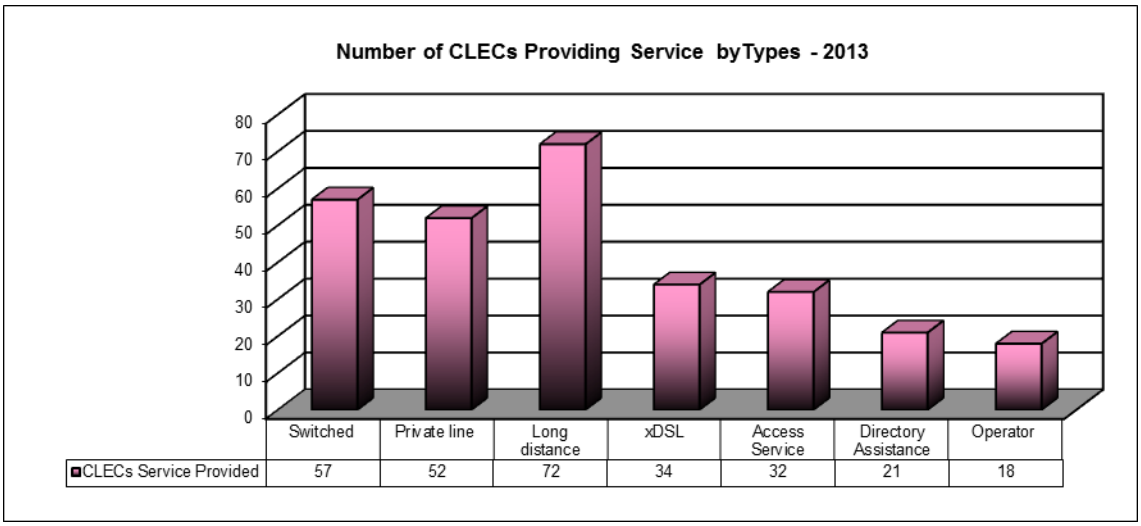
2. CLEC Service Types

Table 3 and Figure 2 below illustrate the number of percentages of CLECs providing various telecommunications services in 2013. As of December 2013, 130 (57.3%) out of the 227 certified CLECs were providing some kind of telecommunications service in Oregon, a decrease from 64.3 percent the previous year. This analysis assumes non-responding CLECs in each year did not provide local service in Oregon in that year. Of the 130 providing service, 57 provided local exchange switched service. In 2012, there were 66 CLECs providing switched service, 72 CLECs provided long distance service (versus 82 in 2012), and 52 provided intrastate private line services.

Table 3. CLEC Market Coverage by Service Category

CLEC Service Types	#of CLECs Providing Service	% of CLECs Providing This Service
Operating CLECs	130	
Local Exchange Switched Service	57	43.8%
Local Exchange Private Line Service:	52	40.0%
Lower Capacity	11	8.5%
Higher Capacity	41	31.5%
Long Distance Service	72	55.4%
xDSL (Digital Subscriber Line)	34	26.2%
Access service	32	24.6%
Directory Assistance	21	16.2%
Operator	18	13.8%
Telecom using Cable TV Facilities	6	4.6%
Telecom using VoIP	43	33.1%
Others	28	21.5%

Figure 2. CLEC Service Types and Distributions



V. Switched Services – Market Size and Share Analysis

1. Market Size and Shares

There were 130 CLECs competing in Oregon's local telecommunication services market in 2013. As a group, CLECs had a market share ranging from 35.2 percent to 42.8 percent, depending on how market share is defined. In this report, market share is calculated using three measures: the number of customers served; the number of lines provided; and revenues.

Table 4 below shows that CLECs have 42.8 percent of the retail business and residential customers[3] in 2013. According to the survey responses, Oregon providers served a total of 937,650 local exchange switched customers. ILECs served 536,295 (57.2%) of the total, while CLECs served 401,355 customers (42.8%).

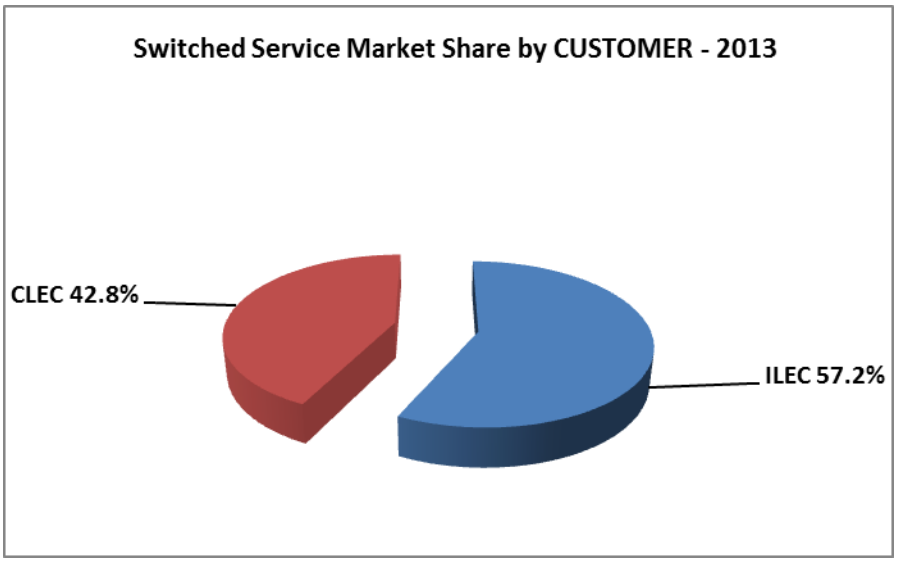
The 32 ILECs providing local exchange switched service had 57.2 percent of customers, down from 62.3 percent in 2012; 58.3 percent of switched access lines, and 64.8 percent of switched service revenues (75.9% in 2012).

Table 4. 2013 Oregon Switched Service Market Shares

2013	Customers	Lines	Revenue-$millions
ILECS	536,295	838,130	259.4
CLECS	401,355	598,576	141.2
Total	937,650	1,436,706	400.6
%	**Customers**	**Lines**	**Revenue**
ILECS	57.2%	58.3%	64.8%
CLECS	42.8%	41.7%	35.2%
Total	100.0%	100.0%	100.0%

[3] The survey instructions define a customer as a person or entity that had applied for, been accepted, and was receiving service for a price during the period covered by this report. A customer that has multiple lines counts as one customer.

Figure 3. Market Share for Switched Service by Number of Customers



In 2013 (Table 4), Oregon LECs supplied to retail customers 1,436,706 local switched telephone lines,[4] a decline of 6.8 percent from the previous year. CLEC's share of that total was 41.7 percent. ILECs supplied 58.3 percent of the total telephone lines, a decline of 7.1 percent from the previous year.

In 2013, the number of ILEC's telephone landlines in Oregon fell to 838,130 in 2013, a decline of 1.3 million lines from 2,116,322 recorded in 1999.

The decrease of all LEC landlines was adversely affected by the increasing adoption of alternate voice technology, such as wireless-only and cable telephony across Oregon households.

In aggregate, including both business and residential services, CLECs supplied an average of 1.5 lines per customer while ILECs supplied an average of 1.6 lines per customer.

Total retail revenues from the local switched access services that are included in this survey were an estimated $400.6 million in 2013 (down 9.5% from $442.5 million in 2012). ILECs received $259.4 million[5] (down 22.8% from $336 million in 2012), and CLECs received the remaining $141 million (down 4% from $147 million in 2012).

[4] Local exchange line – the traditional definition is a voice-level transmission path (64 kbps digital, or less than 4 kHz analog) linking an end user location with the switching center providing dial tone. For purposes of this report, we include fixed interconnected VoIP lines provided by cable companies in this category.
[5] Both ILEC and CLEC revenues discussed in this section refer to that subset of revenues from local exchange switched service only (including cable fixed interconnected VoIP service).

CLECs' retail revenues comprised 35.2 percent of the market share in 2013, versus 33.2 percent in 2012.

Of total CLECs' switched service revenue, 46 percent was from the business sector in 2013. Of total ILECs' switched service revenue, 35.6 percent was from the business sector in 2013.

Table 5 below shows that ILECs' average annual switched service revenue-per-line was $309. CLECs' average annual switched service revenue-per-line was $236

Table 5. Selected 2013 Switched Service Averages

2013	CLECs	ILECs
Lines Per Customer	**1.5**	**1.6**
Annual Revenue Per Line	**$236**	**$309**
Annual Revenue Per Customer	**$352**	**$484**

In Table 6 below is a comparison of the "big four" ILECs - CenturyTel, Qwest, United, and Frontier - with total ILECs and with CLECs. In 2013, the "Big Four" had a 52.3 percent share of all ILEC and CLEC switched lines, and 57.7 percent of all switched service revenues

Table 6. 2013 Market Share of ILECs, CLECs, and the Big 4 ILECs

Market Shares	ILECs/Total	CLECs/Total	Big-4 ILECs/Total
Residential Lines	**55.3%**	**44.7%**	**47.7%**
Business Lines	**54.5%**	**45.5%**	**49.8%**
Wholesale Lines	**98.0%**	**2.0%**	**98.0%**
Total Lines	**58.3%**	**41.7%**	**52.3%**
Residential Revenues	**64.4%**	**35.6%**	**54.5%**
Business Revenues	**58.8%**	**41.2%**	**53.8%**
Wholesale Revenues	**93.9%**	**6.1%**	**93.9%**
Total Revenues	**64.8%**	**35.2%**	**57.7%**

A. Business Market Share

Lines: CLECs supplied 45.5 percent of business switched access lines (see Figure 4). This is slightly greater than the 41.7 percent CLEC share of Oregon total lines.

Revenues: Similarly, CLECs had a 41.2 percent share of business switched service revenues, compared to 35.2 percent of total switched service revenues (see Table 6).

Revenue per line: CLECs' 2013 revenue per business line was $297.70. ILECs' was $354 per business line.

Figure 4. Market Share as Measured by Business Switched Lines

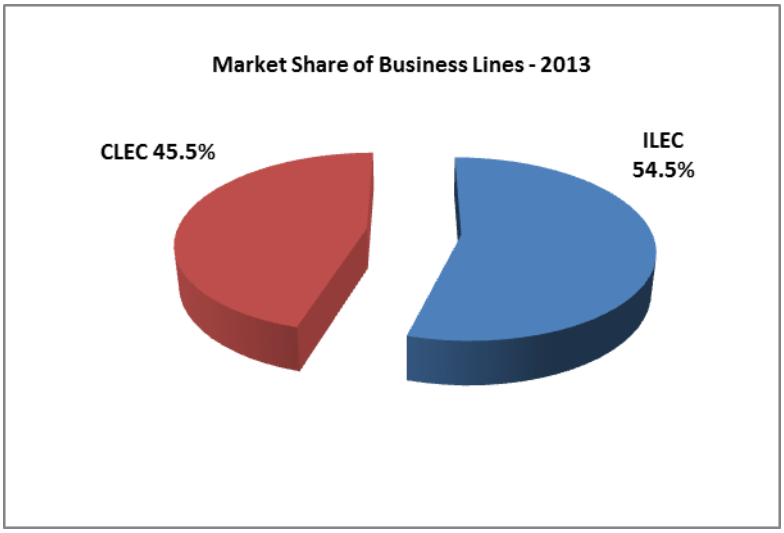
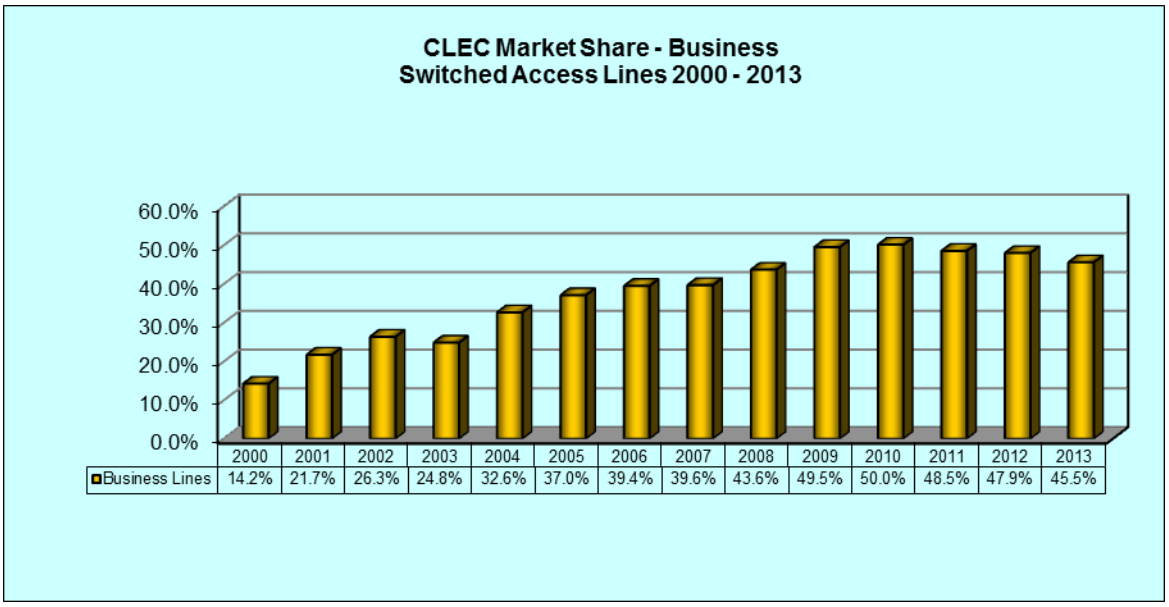


Figure 5 below demonstrates the growth of CLECs' market share of business switched access lines over the past 14 years; it has steadily increased, growing from 14.2 percent in 2000 to 45.5 percent in 2013.

Figure 5. CLEC Business Switched Access Line Market Share Growth



B. Residential Market Share

Table 7. 2013 Residential Switched Services Market Share

Residential Market Shares	Residential Customers	Residential Lines	Residential Revenues $millions
ILECs	439,072	468,371	134.1
CLECs	372,791	378,311	74.1
Total	811,863	846,682	208.2
ILECs/Total	54.1%	55.3%	64.4%
CLECs/Total	45.9%	44.7%	35.6%

In the residential retail market, CLECs' had 45.9 percent of the customers in 2013 (see Table 7). According to the survey, Oregon carriers provided local exchange switched services to 811,863 Oregon residential customers. ILECs served 439,072 customers or 54.1 percent of the total, while CLECs served 372,791 residential customers, or 45.9 percent of the total.

While CLEC residential market share climbed slowly in the single-digit percentile range through 2007, it shot up to 20 percent in 2008 when cable companies entered the market in force, offering fixed interconnected VoIP telephone service as an alternative to the traditional landlines provided by ILECs.

In terms of share of total lines, ILECs provided 55.3 percent of residential lines to customers in 2013, slightly down from 58.5 percent in 2012. The "big four" ILECs - CenturyTel, Qwest, United, and Frontier - provided 47.7 percent of total ILEC and CLEC residential lines. On average, residential phone service is less profitable than business service because it costs more on a per line basis to provide service to an individual home than to businesses, which are generally more geographically concentrated. Additionally, residential rates are generally substantially lower than business rates. CLECs provided 44.7 percent of total residential lines, while ILECs provided 55.3 percent.

Revenues from the residential market in 2013 were an estimated $400.6 million as compared with $442.6 million in 2012.

2. CLEC Provisioning of Switched Service

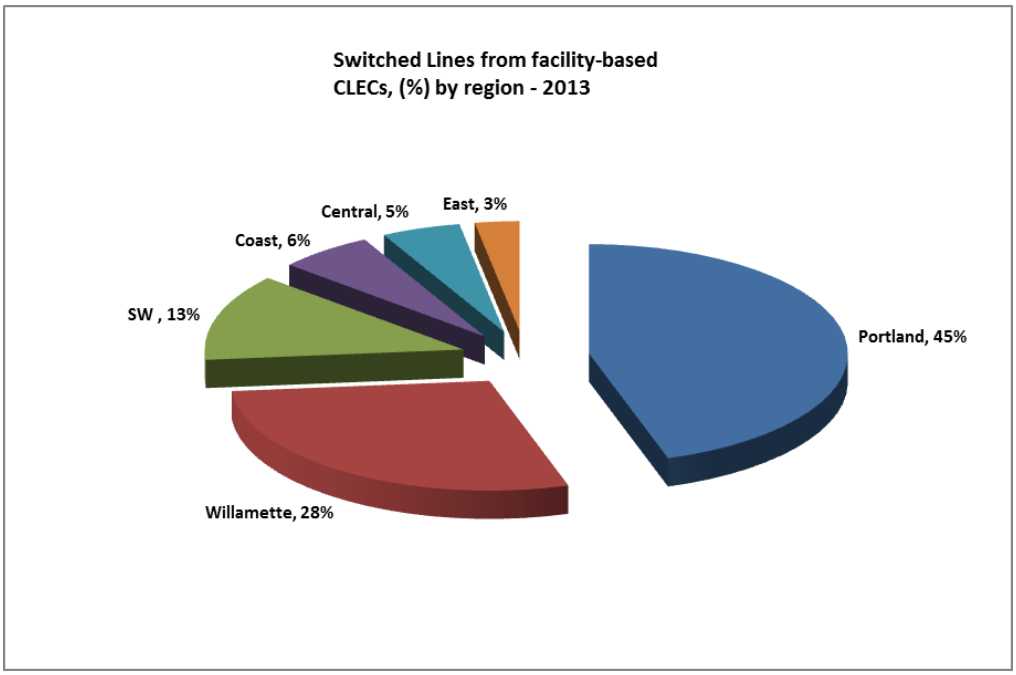
In 2013, 31 of the 57 CLECs (54%) providing local switched service did so by reselling ILEC services. Reselling involves a CLEC buying the retail service from the ILECs at a discounted rate, and reselling the service under the CLEC's own name to its retail customers.

A. Facility-Based CLECs

In 2013, 27 of the 57 CLECs (47%) providing local switched service were either fully or partially facility-based providers, meaning that they served at least some of their customers with facilities they owned. The remaining 53 percent provided service solely by reselling the service of the ILECs. These fully or partially facility-based CLECs provided 552,165 switched access lines in 2013, which constituted 92.5 percent of CLECs' total lines. The majority of these lines were provided by cable telephony providers. However, a traditional CLEC typically owns and operates some telecommunications facilities in addition to reselling services obtained from one or more ILECs.

For facility-based CLECs, 45 percent of local telephone service was provided in the Portland area, 28 percent was provided in the Willamette Valley area, and 13 percent was provided in the Southwest area (see Figure 6).

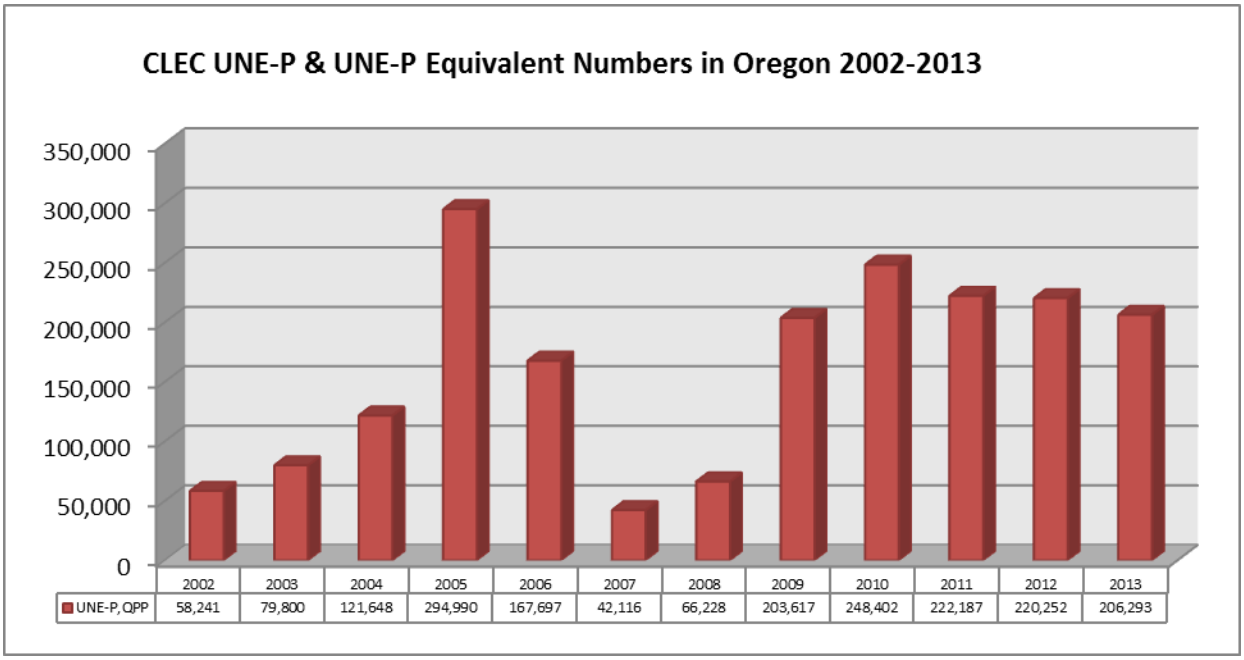
Figure 6. Regional Distribution – Facility-based CLEC telephone service



B. Competition from UNEs

Twenty-four (24) CLECs reported purchasing ILEC Unbundled Network Elements (UNEs) or resale switched services. The number of UNEs and resale switched lines has been in decline since 2010. In Figure 7 below, the effect of a change in FCC policy that overturned the mandate to provide unbundled loops combined with switching services. The number of UNEs plummeted in 2007, when CLECs were forced to provide their own switches in ILEC central offices.

Figure 7. Oregon CLEC UNEs and Equivalent Totals 2002-2013



3. Market Trends in Switched Access Services

Table 8 below illustrates the trend in switched access lines. The CLEC market share increased from 6.4 percent in 2000 to 41.7 percent in 2013. At the same time CLECs were gaining significant market share in 2007, the total number of lines began a steady decline. Both ILEC and CLEC total line counts have dropped. ILEC line numbers dropped by 7.1 percent from the previous survey year to the current year, while CLEC line numbers dropped by 6.8 percent. CLECs have lost lines for the third consecutive year in 2013 while ILECs have lost lines for each of the last 14 years.

The CLEC and ILEC shares of switched access lines in 2013 are 41.7 percent and 58.3 percent, respectively.

Table 8. Trends in Switched Access Lines, 2000 to 2013

Date	ILEC Lines	CLEC Lines	Total	CLEC Share
2000	2,257,594	153,578	2,411,172	6.4%
2001	2,238,640	219,990	2,458,630	8.9%
2002	2,115,892	270,494	2,386,386	11.3%
2003	2,024,882	256,571	2,281,453	11.2%
2004	1,959,459	271,344	2,230,803	12.2%
2005	1,803,832	346,923	2,150,755	16.1%
2006	1,652,900	330,407	1,983,307	16.7%
2007	1,605,911	403,121	2,009,032	20.1%
2008	1,436,946	526,692	1,963,638	26.8%
2009	1,265,459	641,064	1,906,523	33.6%
2010	1,123,531	650,237	1,773,768	36.7%
2011	1,003,865	641,032	1,644,897	39.0%
2012	902,114	639,438	1,541,552	41.5%
2013	838,130	598,576	1,436,706	41.7%

Figure 8. ILEC Switched Access Services Market Share, 2000 to 2013

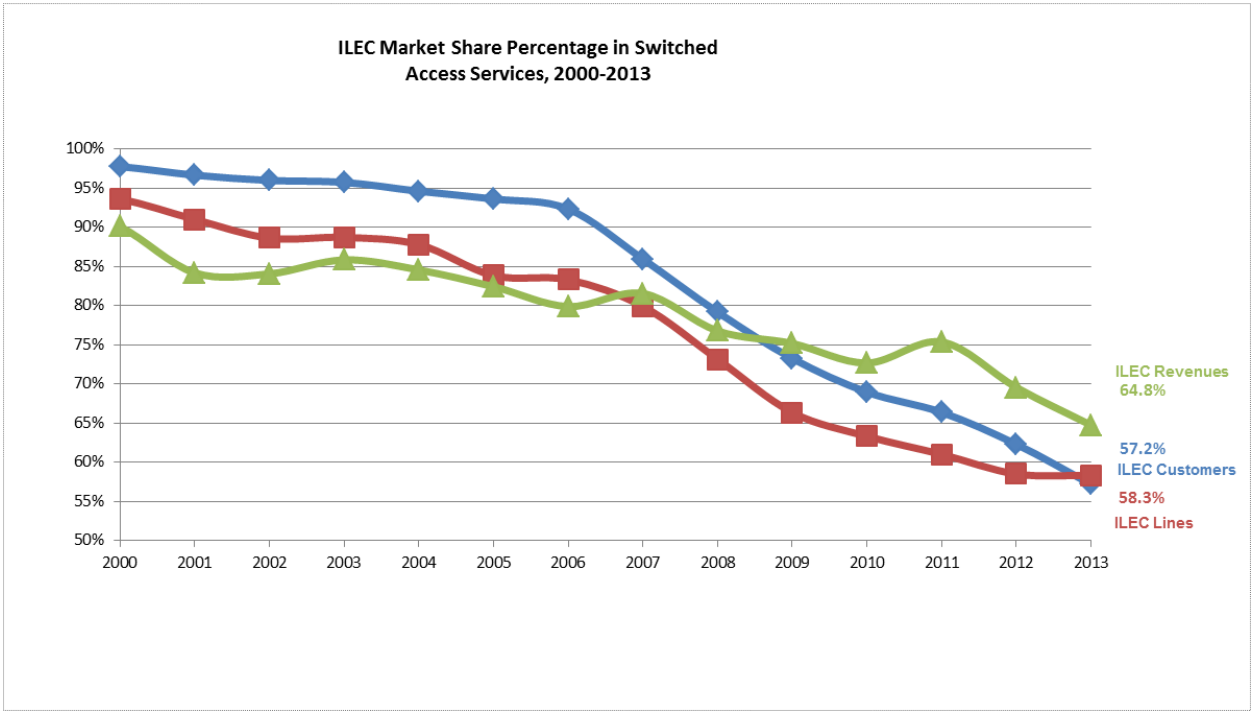


Figure 8 shows the declining trend for ILECs' share of switched access services. From 2000 to 2013, the share of ILECs' total customer numbers decreased from 97.8 percent to 57.2 percent. The share of ILECs' total switched access lines decreased from 93.6 percent to 58.3 percent. The share of ILECs' total switched revenue decreased from 90 percent to 64.8 percent.

Figure 9. CLEC Switched Access Lines

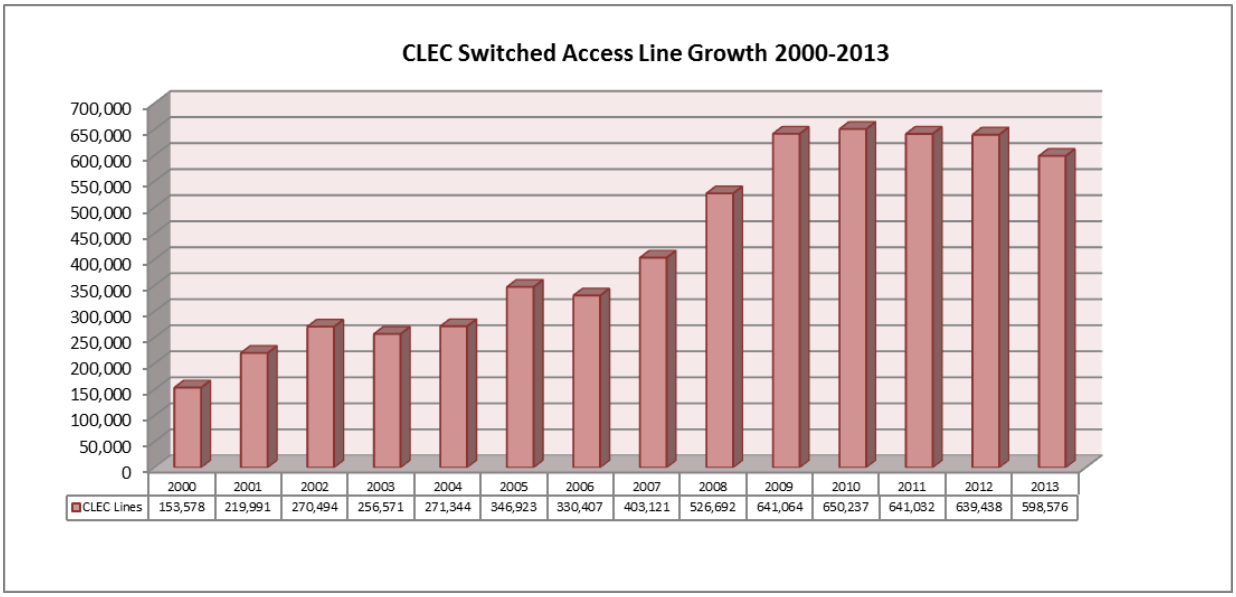
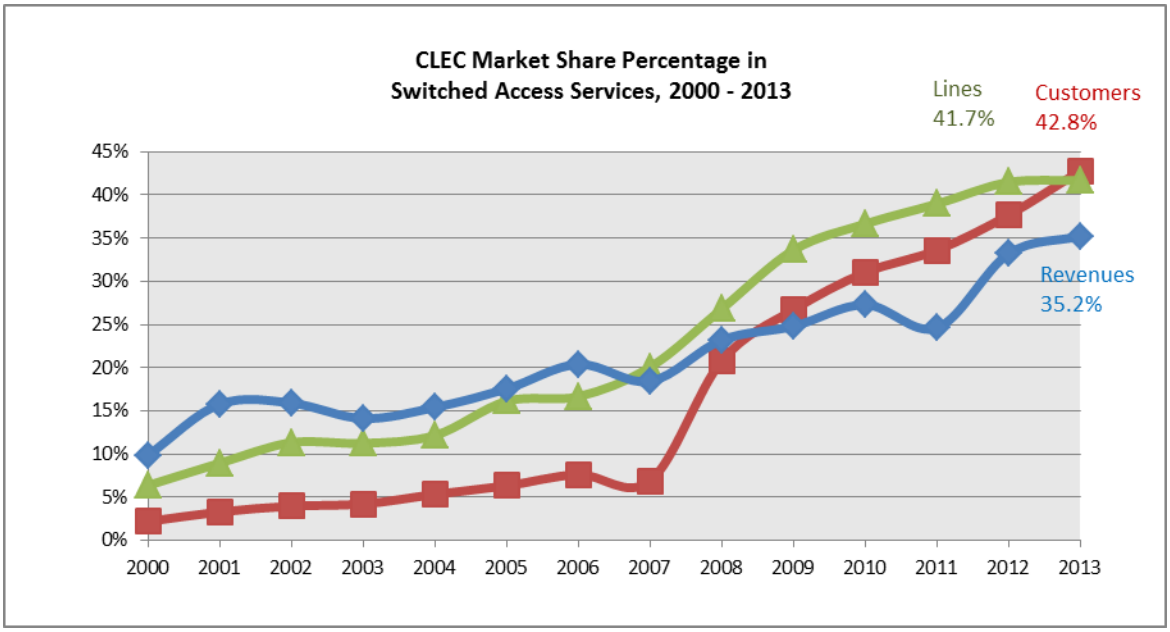


Table 8 and Figure 9 illustrate a slight decline in CLECs' switched access lines since 2010. From 2000 to 2013 the CLECs' switched lines grew an average 13 percent per year, from 153,578 lines in 2000 to 598,576 lines in 2013. Total CLEC lines have increased by 290 percent over this timeframe. During the same period, ILECs' switched access lines declined by an average of 6.1 percent per year, from 2.25 million lines in 2000 to 0.84 million lines in 2013. Total ILEC lines have declined by 63 percent since 2000. The total number of switched access lines, both ILECs' and CLECs', has declined by 41 percent since 2000. This decline is largely due to the substitution of wireless-only households for households that have a landline. The decline in the residential market is exacerbated by the replacement of second residential lines with broadband service. As well, especially in the business markets, customers are increasingly migrating their traditional landline phone services to VoIP-based telephony from a variety of providers, many of whom are not considered CLECs and so are not included in this survey.

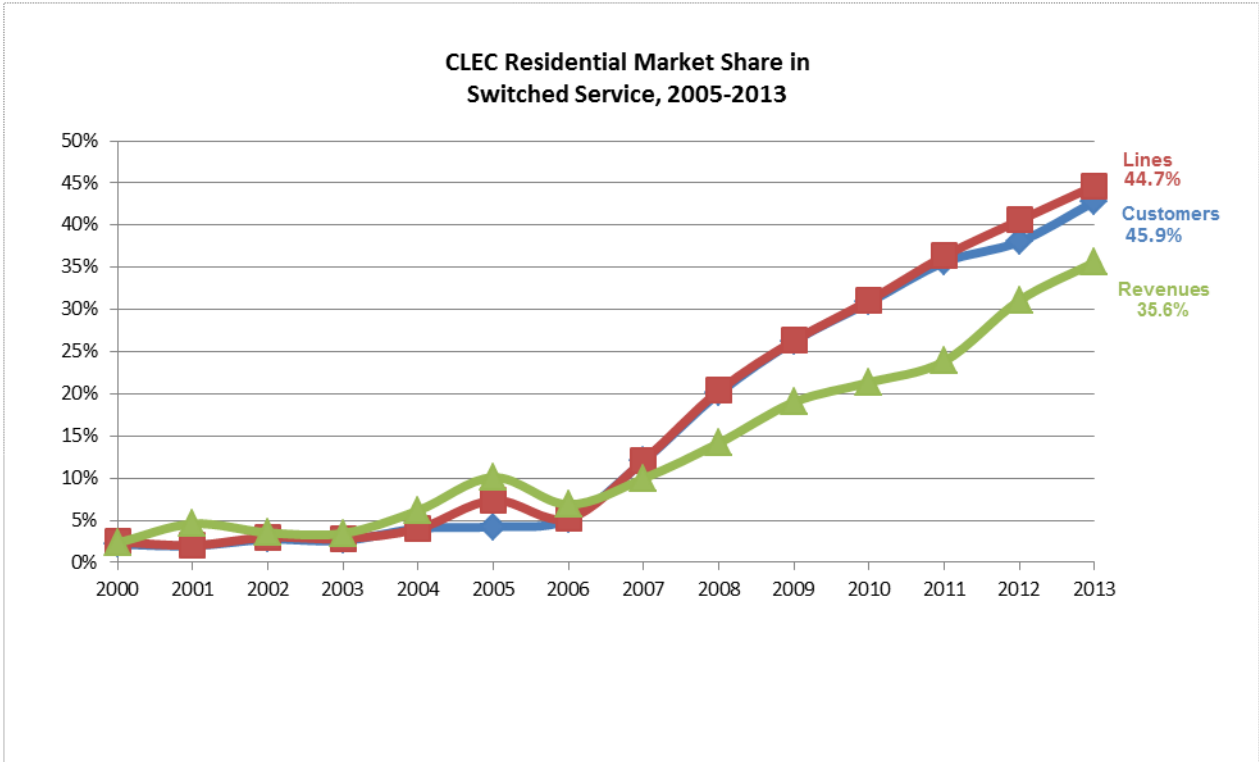
Figure 10 below shows CLECs' total market share growth in switched access services. From 2000 to 2013 CLECs' share of switched service revenue was 35.2 percent in 2013 compared to a 9.9 percent market share in 2000. Over the same period, CLECs' share of switched lines increased to 41.7 percent in 2013 up from 6.4 percent in 2000. CLECs' share of customers was 42.8 percent in 2013 versus 2.2 percent in 2000.

Figure 10. CLEC Switched Access Services Market Share 2000 to 2013



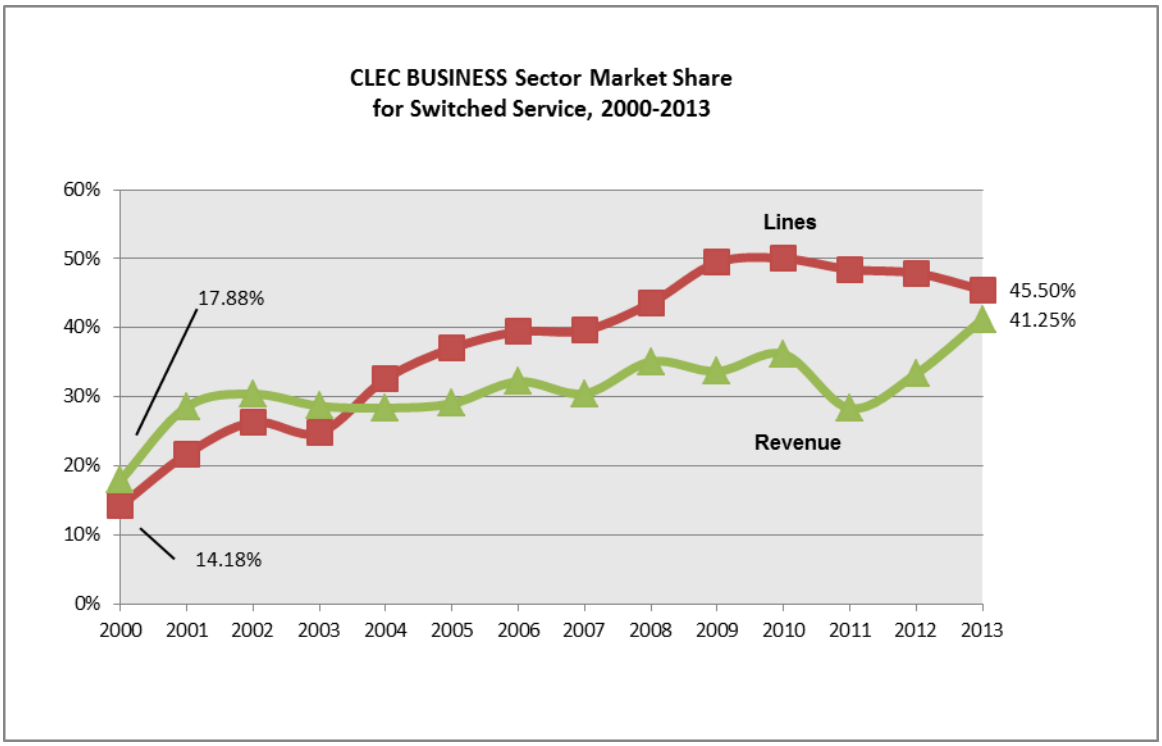
In Figure 11 below, it is shown that CLECs' share of residential switched service revenue was 35.6 percent of total ILEC and CLEC residential switched service revenue in 2013, as compared to 2.3 percent in 2000. Over the same period, CLECs' share of residential lines increased to 44.7 percent from 2.4 percent, and CLECs' share for residential customers increased to 45.9 percent from 2 percent.

Figure 11. CLEC Residential Market Shares for Switched Access Services: 2000 to 2013



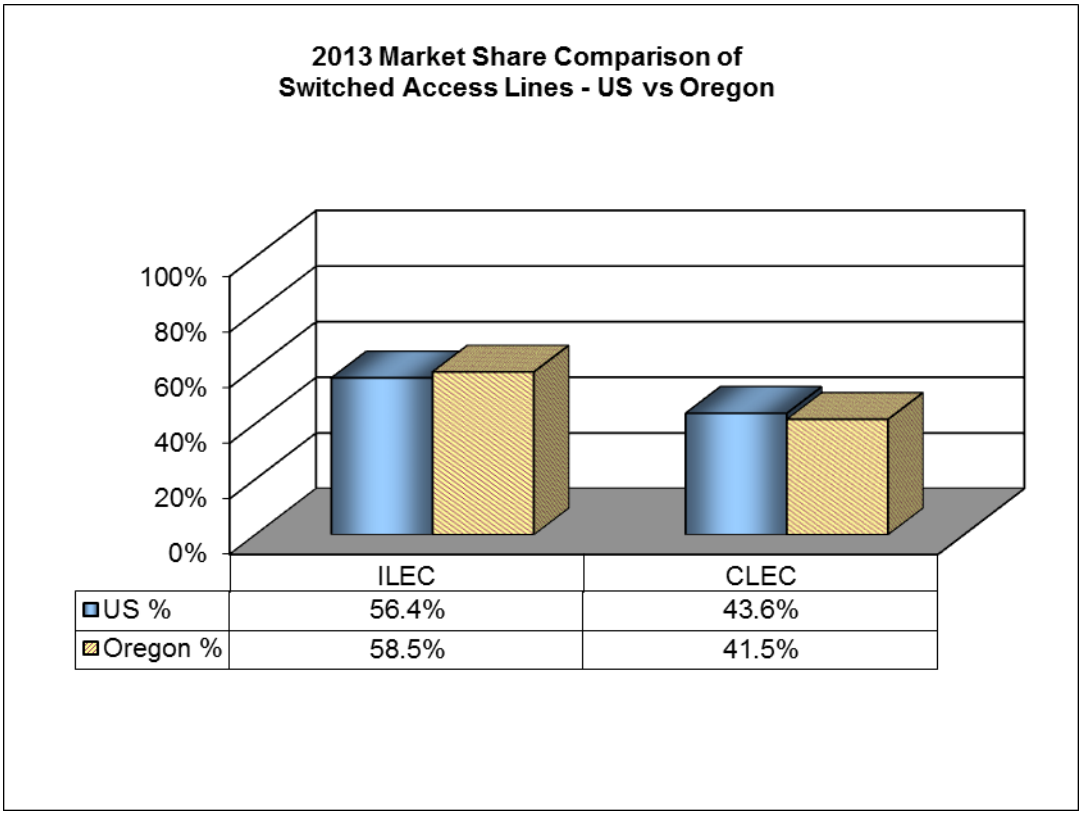
In the below Figure 12, it shows that CLECs' share of total business switched service revenue increased to 41.2 percent in 2013 up from 17.9 percent 14 years ago in 2000. In the same period, CLECs' share of business lines increased to 45.5 percent from 14.8 percent.

Figure 12. CLEC Business Market Shares for Switched Access Service: 2000 to 2013



In Figure 13 below CLEC switched access lines in Oregon are compared with the CLEC share nationally. Like this report, the national comparison includes lines provided by fixed interconnected VoIP. According to the FCC's Local Telephone Competition, October 2014 Release, as of December 31, 2013, retail and business customers purchased approximately 75 million switched access lines from ILECs, comprising 56.4 percent of total LEC lines. CLECs retail and business customers purchased approximately 58 million switched access and VoIP lines, comprising approximately 43.6 percent of the total lines. In comparison, Oregon ILECs are doing slightly better with 59 percent of the switched lines.

Figure 13. Market Share Comparison of Switched Access Lines – U.S. vs. Oregon



Source: FCC Local Telephone Competition Report, December 2013, Table 1

VI. High Speed Access Services

1. Market Size and Share

A. Private Line Service

Intrastate private lines are dedicated circuits used by customers to transmit information between two or more pre-selected and fixed locations within the state of Oregon. Intrastate private line services are available in a range of capacities or bandwidths. The survey distinguishes between lower capacity circuits, with a bandwidth of less than 1.544 Megabits per second, and higher capacity circuits with a bandwidth of 1.544 Mbps or greater.

Total revenue from intrastate private line services was 9.3 percent of total 2013 service revenues. Digital Subscriber Lines, or xDSL, comprised 23.6 percent, and switched service was 67.1 percent of total 2013revenues. It should be noted that xDSL is generally only provided by ILECs and traditional CLECs. Cable operators provide their own form of broadband service, and those revenues and line counts are not represented here.

The following Table 9 compares total numbers and CLEC market share of intrastate private line services. Fifty-two (52) CLECs reported that they provide intrastate private line service. CLECs' private line market shares ranged from 23.1 percent when measured by circuits to 59.1 percent when measured by revenue. The percentage depends on how market share is defined. As with switched access lines, the survey measured CLECs' market share in three ways: by customers, circuits, and revenues.

Table 9. Intrastate Private Line Services

2013	All LECs	CLECs	ILECs	CLEC Share
Private Line Customers	3,045	875	2,170	28.7%
Total Private Line Circuits	14,026	3,244	10,782	23.1%
Lower Capacity	8,573	51	8,522	0.6%
Higher Capacity	5,453	3,193	2,260	58.6%
Annual Revenues (- $000)	$50,608	$29,902	$20,705	59.1%

CLECs' share of private line customers was 28.7 percent, or 875 customers,[6] while ILECs provided local private line service to 2,170 customers, or 71.3 percent of the total.

CLECs' market share of all private line circuits[7] was 23.1 percent. CLECs' market share of lower capacity circuits was 0.6 percent, while their market share for higher capacity circuits was 59.1 percent. CLEC private line circuits, including lower and higher capacity circuits, totaled 3,244 in 2013.

Table 10. Private Line Service Revenues: 2013

2013	Total	ILECs	CLECs
Shares	**100.0%**	**40.9%**	**59.1%**
$ Million/year	**$50.6**	**$20.7**	**$29.9**

Table 10 shows that CLECs' share of total local private line service revenues[8] was 59.1 percent. Total LEC revenues from local private line services in 2012 were an estimated $50.6 million. Of the total estimated annual revenues, ILECs received $20.7 million (40.9%) and CLECs $29.9 million (59.1%).

B. DSL Service

Digital subscriber line (DSL) is a service which uses a technology that combines two-way voice and data transmissions at very high speeds over copper telephone lines.

---

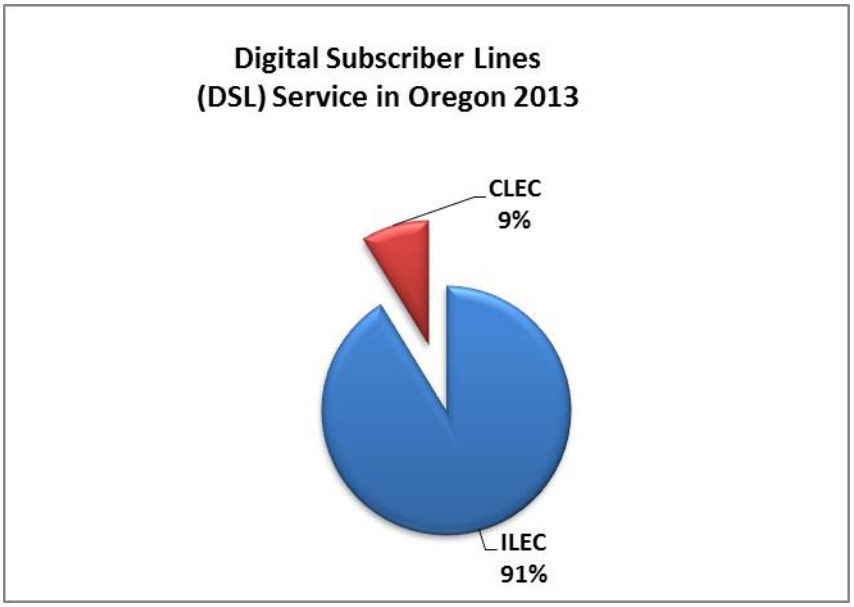
6 Note that survey results may overstate CLECs' share of local private line customers, since local private line customers may buy private line services from more than one carrier at a time. As a result, a CLEC and an ILEC may report the same entity as a private line.

7 **Circuit** – a termination you provide and bill to your customers for private line service. If you provide a circuit that connects two customer locations, and bill the customer for both ends of the circuit, this counts as two terminations. The capacity of a circuit should be determined by the capacity you deliver to the customer at the point of termination, even though the customer may further subdivide that capacity using its own multiplexing or other equipment.

8 **Revenues** – the cash inflows or equivalents from your operations during the year. *Excluded* are loan proceeds, shareholder contributions, and taxes that you billed to customers. *Included* are regulated and nonregulated charges; federal and state charges; federal and Oregon universal service end-user surcharges and distributions; charges for switched lines, local usage, extended area service, repair and maintenance services, directory listing services, and add-on features such as call waiting, voice messaging, and caller identification; and charges for private line circuits and add-on capabilities such as multiplexing, conditioning, and bridging.

The total number of LEC DSL circuits in Oregon was 365,228 in 2013 and 358,798 in 2012. About 91 percent was provided by ILECs and 9 percent was provided by CLECs (see Figure 14).

Figure 14. Oregon Digital Subscriber Lines (DSL)

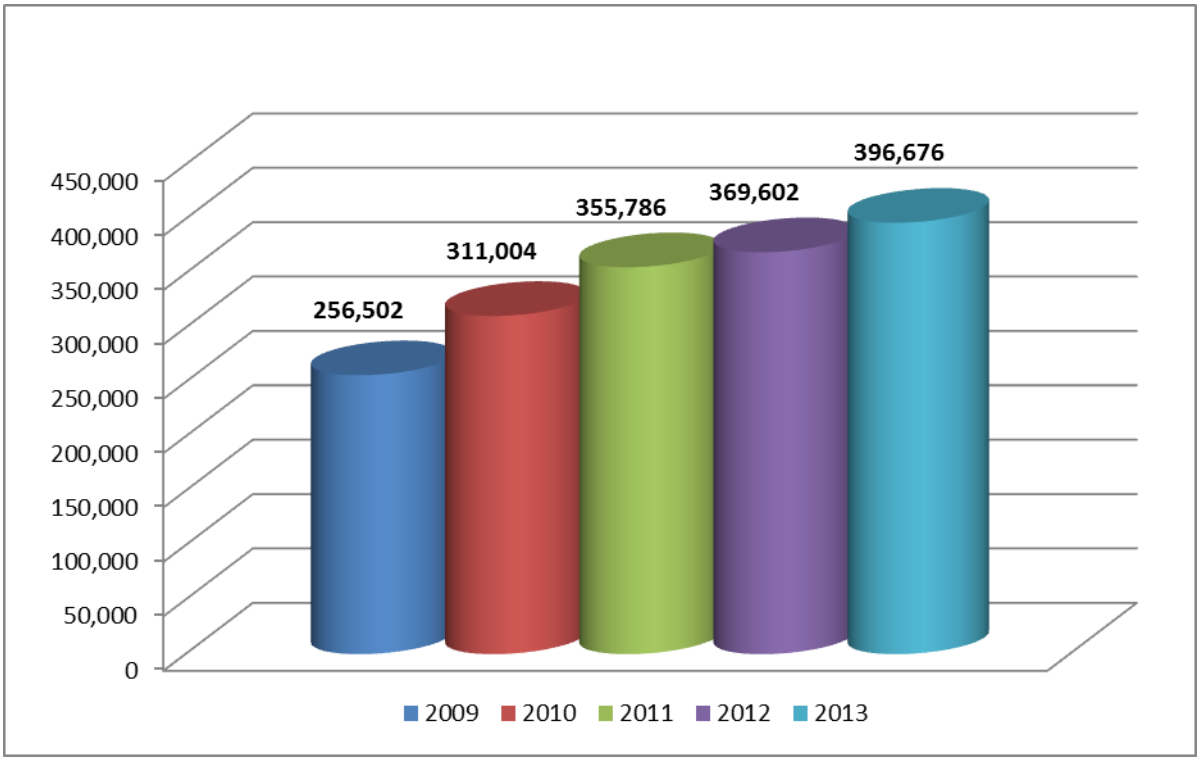


C. VoIP Service

Figure 14a below shows the upward trend for VoIP service in Oregon. Interconnected Voice over Internet Protocol (VoIP) Service is a service that enables real-time, two-way voice communications; requires Internet-protocol (IP) compatible customer-premises equipment (CPE); and permits users generally to receive or initiate calls that may originate or terminate, respectively, on the public switched telephone network (PSTN).

Oregon's total number of LEC-provided VoIP lines in 2013 was 396,676, all of which were provided by CLECs. The vast majority of these are fixed interconnected VoIP service from the cable telephone companies (also included in CLEC switched access line counts). When cable telephony VoIP subscriptions are excluded from this figure, the VoIP line count reported in this survey is 10,416.

Figure 14a. VoIP Trends



2. CLEC Provisioning of Private Line Circuits

Nineteen (19) CLECs provided private line services by reselling ILEC services. Twelve (12) CLECs provided private line service by reselling services of other CLECs. Most of this resale activity was to business customers in the Portland Metropolitan and Willamette Valley areas.

3. Market Trends in Local Private Line and DSL Services

Technological change is the driving force in the telecommunications industry. Many different technologies and types of networks can provide voice and data connectivity, including “plain old telephone service” (POTS), with new ones appearing with some frequency.

VII. Market Segments by Region and Type of Service

The survey divided Oregon into six geographic regions. The regions are based on clusters of ILEC local exchange serving areas (see Figure 15). The six regions are: Portland Metropolitan,[9] Willamette Valley,[10] Southwest Interior,[11] Coast,[12] Central,[13] and East.[14]

---

[9] The **"Portland Metropolitan"** region consists of the following exchanges: Aurora, Beavercreek, Beaverton, Burlington, Canby, Carlton, Charbonneau, Colton, Corbett, Estacada, Forest Grove, Gresham, Hillsboro, Hoodland, Lake Oswego, Molalla, Newberg, North Plains, Oak Grove-Milwaukie, Oregon City, Portland, Redland, Sandy, Scappoose, Scholls, Sherwood, Stafford, Sunnyside, Tigard, Vernonia, Woodburn-Hubbard, and Yamhill.

[10] The **"Willamette Valley"** region consists of the following exchanges: Albany, Alsea, Amity, Aumsville-Turner, Bellfountain, Blodgett, Blue River, Brownsville, Clatskanie, Corvallis, Cottage Grove, Creswell, Dallas, Dayton, Deadwood, Detroit, Drain, Eugene-Springfield, Falls City, Gervais, Government Camp, Grand Island, Grand Ronde, Halsey, Harlan, Harrisburg, Horton, Independence-Monmouth, Jefferson, Junction City, Lewisburg, Lebanon, Lobster Valley, Lowell, Lyons, Marcola, McMinnville, Mill City, Monitor, Monroe, Mt. Angel, Murphy-Provolt, Oakridge, Philomath, Rainier, Salem, Scio, Shedd, Sheridan, Silverton, St. Helens, St. Paul, Stayton, Summit, Sweet Home, Triangle Lake, Veneta, and Willamina.

[11] The **"Southwest Interior"** region consists of the following exchanges: Ashland, Azalea, Butte Falls, Camas Valley, Canyonville, Cave Junction, Central Point, Crater Lake, Days Creek, Diamond Lake, Elkton, Fish Lake, Glendale, Glide, Gold Hill, Grants Pass, Jacksonville, Medford, Myrtle Creek, North Umpqua, Oakland-Sutherlin, O'Brien, Phoenix-Talent, Prospect, Riddle, Rogue River, Roseburg, Selma, Shady Cove, White City, Wolf Creek, and Yoncalla.

[12] The **"Coast"** region consists of the following exchanges: Ash Valley, Astoria, Bandon, Bay City, Beaver, Brookings, Cannon Beach, Chitwood, Cloverdale, Coos Bay-North Bend, Coquille, Depoe Bay, Florence, Garibaldi, Gleneden Beach, Gold Beach, Jewell, Knappa, Lakeside, Langlois, Lincoln City, Mapleton, Myrtle Point, Nehalem, Newport, Pacific City, Port Orford, Powers, Reedsport, Rockaway, Scottsburg, Seaside, Siletz, South Beach, Tidewater, Tillamook, Toledo, Waldport, Warrenton, Westport, and Yachats.

[13] The **"Central"** region consists of the following exchanges: Antelope, Arlington, Bend, Bonanza, Bly, Camp Sherman, Cascade Locks, Chemult, Chiloquin, Condon, Culver, Dufur, Fort Klamath, Fossil, Gilchrist, Grass Valley, Hood River, Klamath Falls, Lakeview, La Pine, Madras, Malin, Maupin, Merrill, Mitchell, Moro, Mosier, Odell, Paisley, Parkdale, Paulina, Pine Grove, Prineville, Redmond, Rocky Point, Rufus, Silver Lake, Sprague River, Sisters, The Dalles, Tygh Valley, Wamic, and Wasco.

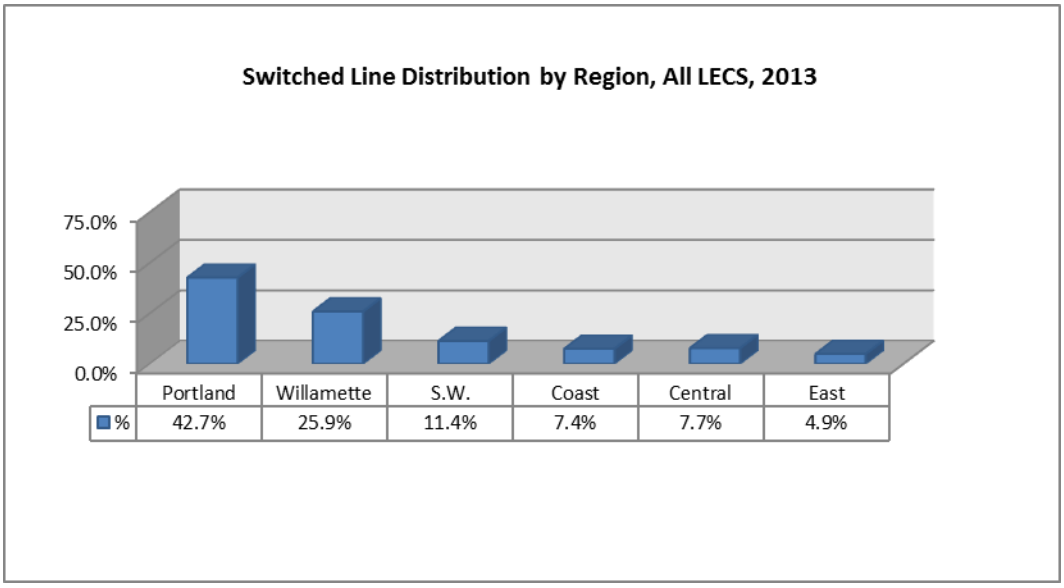
[14] The **"East"** region consists of the following exchanges: Adrian, Athena-Weston, Baker, Bates, Boardman, Burns, Cove, Dayville, Durkee, Echo, Elgin, Enterprise, Flora-Troy, Granite, Haines, Halfway, Harney, Harper, Helix, Heppner, Hereford-Unity, Hermiston, Huntington, Imbler, Ione, John Day, Jordan Valley, Joseph, Juntura, La Grande, Lexington, Long Creek, Lostine, Meacham, Medical Springs, Milton-Freewater, Monument, Mt. Vernon, North Powder, Nyssa, Ontario, Oregon Slope, Pendleton, Pilot Rock, Prairie City, Richland, Ridgeview, Seneca, Spray, Stanfield, Starkey, Sumpter, Ukiah, Umatilla, Union, Vale, Walla Walla (Stateline), and Wallowa.

1. Market Segments by Region

A. Switched Services by Region

The survey asked each LEC to report the number of switched local exchange lines it supplied to customers in each region. Both ILECs and CLECs reported customers in all six regions. The Portland Metropolitan region, the most populous area of the state, continues to be the largest regional market. With 42.7 percent (see Figure 16) of all local exchange switched lines in the state. The second largest region was the Willamette Valley region, with 25.9 percent of switched access lines. The other four regions collectively accounted for one-third: Southwest Interior (11.4%), Central (7.7%), Coast (7.4%), and East (4.9%).

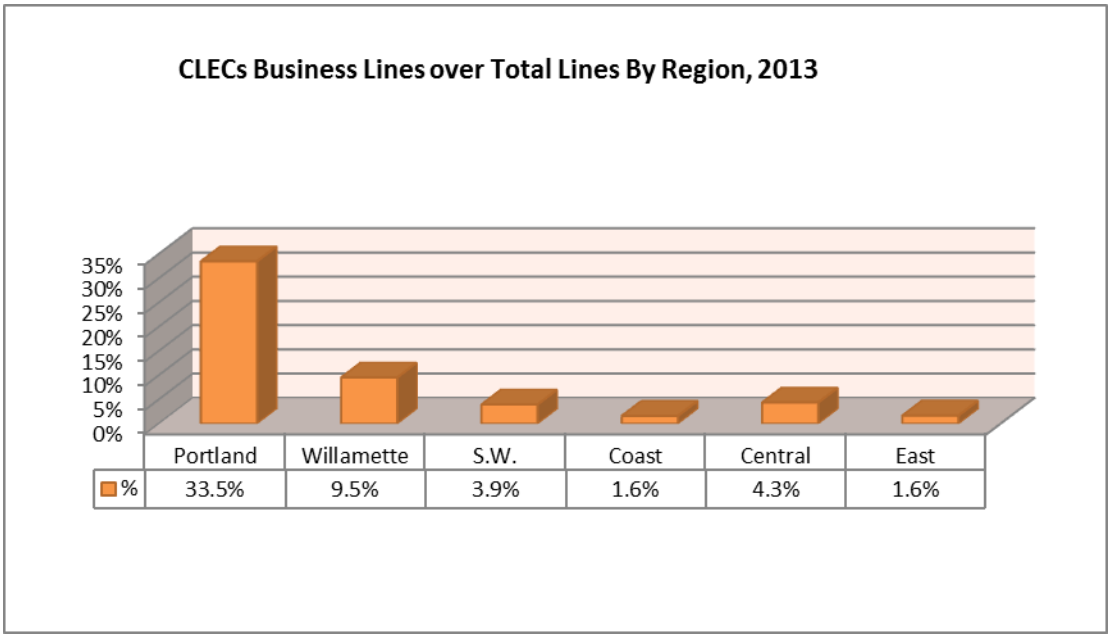
Figure 15. Oregon LECs' Switched Lines by Region



Survey responses indicate that CLECs provided local switched service in all six regions of the state. Competitive entry is highest in the Portland Metropolitan region. Statewide, CLECs had a 41.7 percent share of switched local exchange lines. For the Residential market, CLECs had 44.7 percent of lines in the state in 2013.

In the Business market, CLECs had 45.5 percent of lines in the state, and 33.5 percent of CLEC business switched lines were in the Portland Metro region (see Figure 17).

Figure 16. Distribution of CLEC Business Lines by Region

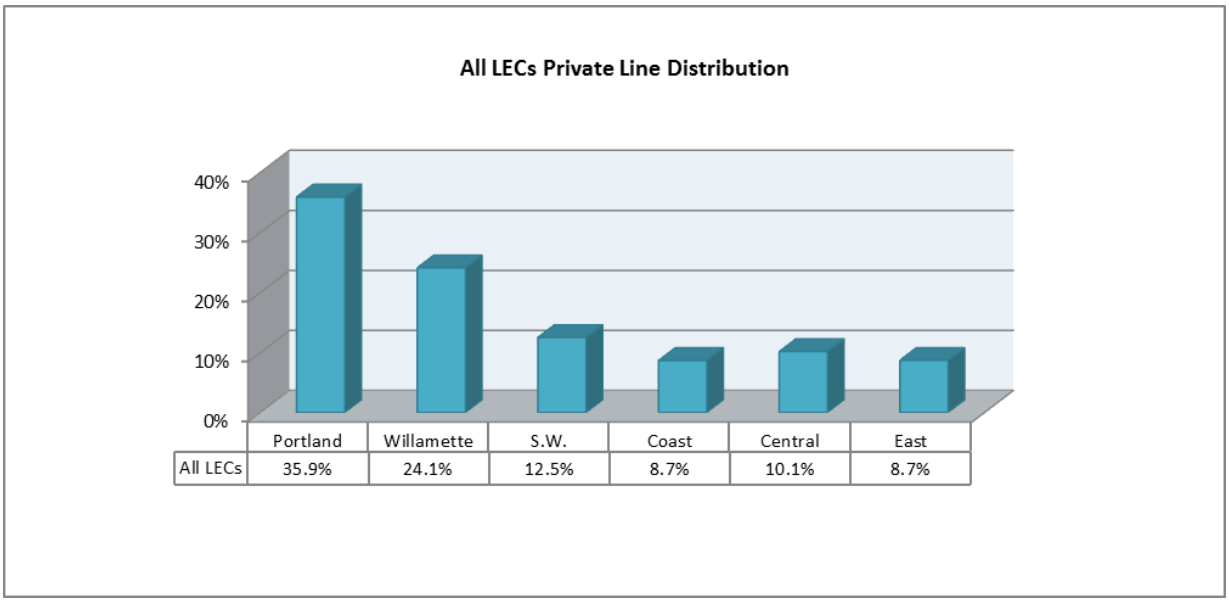


B. Private Line Service by Region

A private line is a dedicated, non-switched (or privately-switched) link between two or more customer-specified locations. Capacity is determined by the highest data transmission rate in either direction. A circuit is a termination provided and billed for private line service. If a circuit connects two customer locations, and the customer is billed for both ends of the circuit, this counts as two terminations, and thus two private lines. The capacity of a circuit is determined by the capacity delivered to the customer at the point of termination, even though the customer may further subdivide that capacity using its own multiplexing or other equipment.

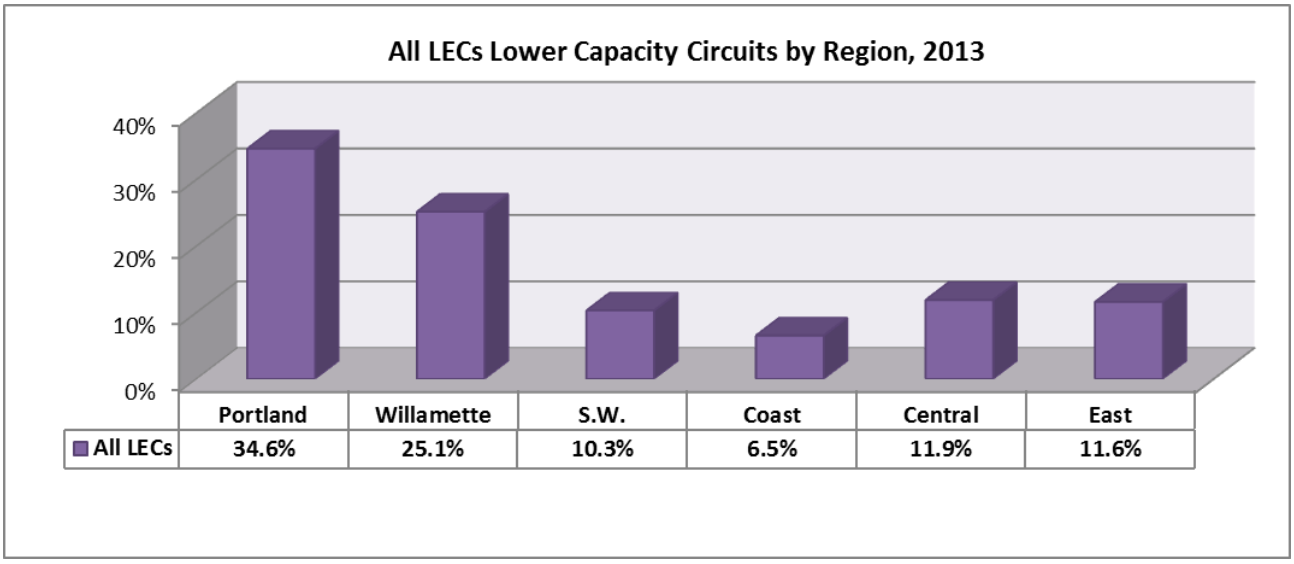
Please note: private line service by regions are measured by circuit terminations, not simply by circuits. The Portland Metropolitan region is the largest regional private line market, with 35.9 percent (see Figure 18) of all retail private line circuits in the state. The second largest region was the Willamette Valley, with 24.1 percent of private line circuits. The other four regions are Central (10.1%), Southwest Interior (12.5%), East (8.7%), and Coast (8.7%). (See footnote 7, private line service by region measured by circuit terminations.)

Figure 17. Private Line Circuits Terminations for both Lower & Higher Capacities by Region: 2013



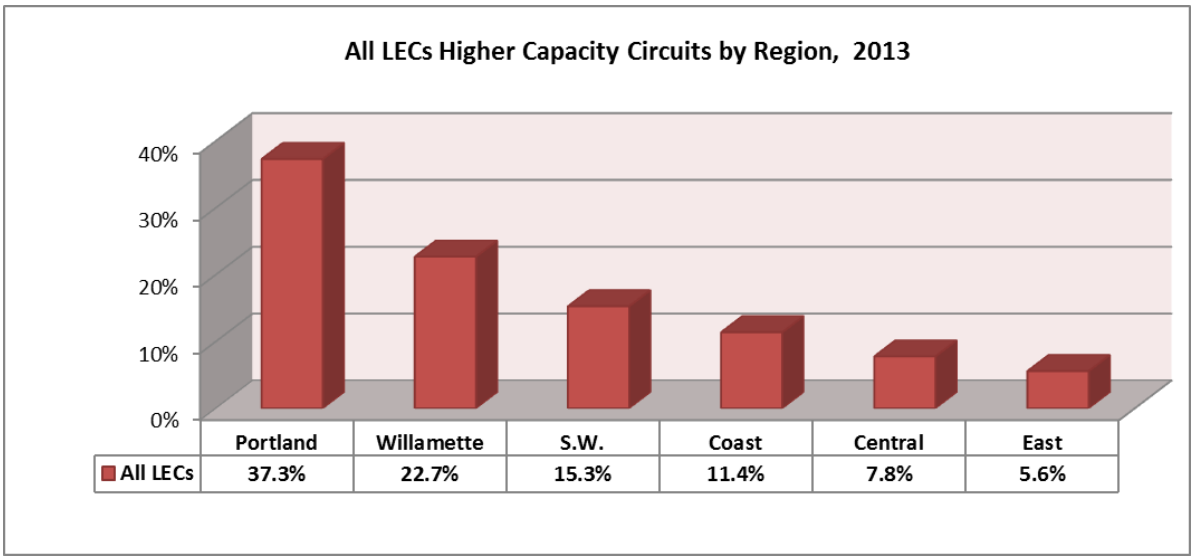
Of the state's 14,026 local exchange private line circuits, the majority (61 percent) were in the lower capacity category. The Portland Metropolitan region was the largest market for lower capacity circuits, with 34.6 percent (see Figure 19) of the lower capacity private line circuits in the state. The second largest market was the Willamette Valley region with 25.1 percent of lower capacity private line circuits, followed by the Central (11.9%), East (11.6%), Southwest Interior (10.3%), and Coast (6.5%) regions.

Figure 18. Lower Capacity Private Line Circuits by Region: 2013



Higher capacity private line circuits accounted for 38.9 percent of the state's total private line circuits. In December 2013, the largest market for higher capacity private line circuits terminations was the Portland Metropolitan region, with 37.3 percent of the state's total (see Figure 20). The second largest market was the Willamette Valley region, with 22.7 percent of higher capacity private line circuits, followed by the Southwest Interior (15.3%), Central (7.8%), East (5.6%), and Coast (11.4%) regions.

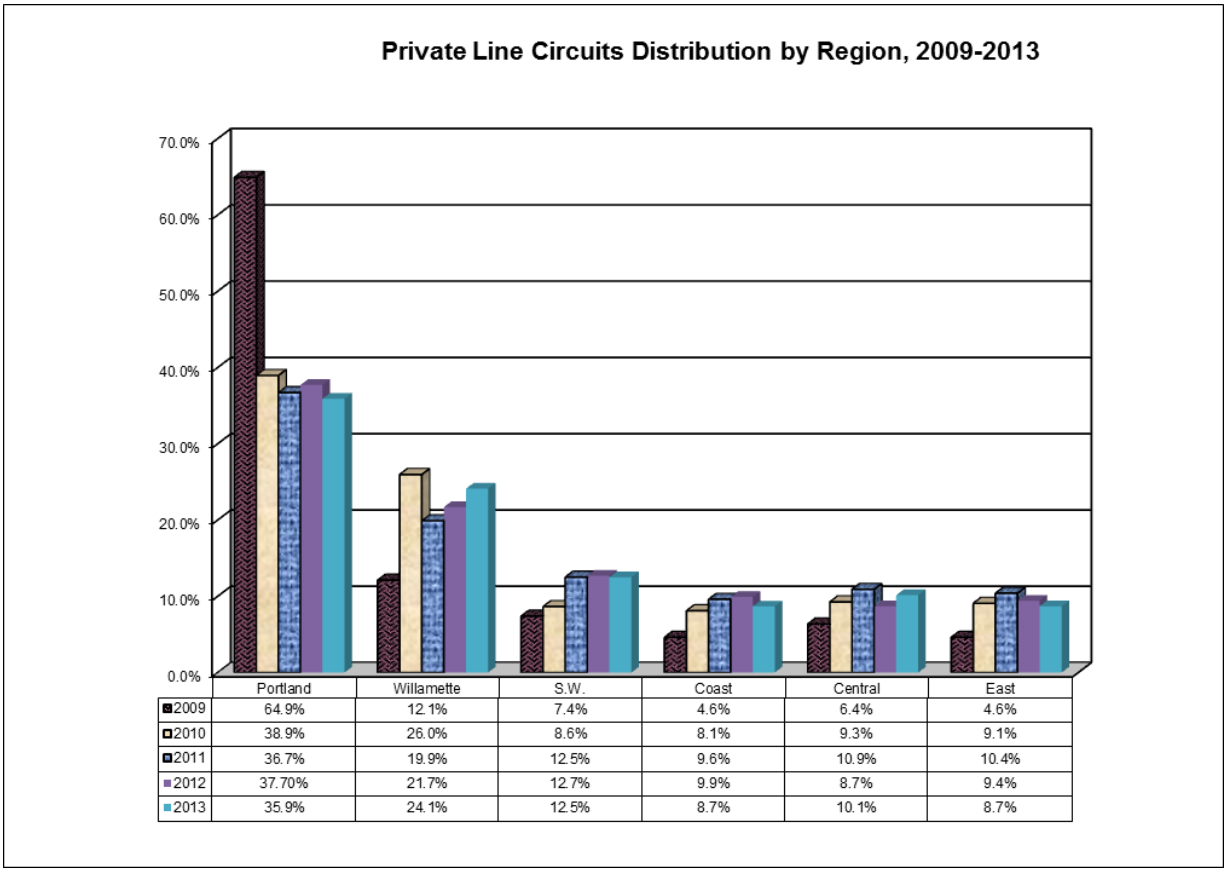
Figure 19. Oregon Higher Capacity Circuits by Region: 2013



CLECs' share of lower capacity circuits was 0.6 percent statewide. CLECs' share of higher capacity private line circuits was 58.6 percent statewide.

The regional distribution of all ILEC and CLEC private lines has fluctuated over the last several years as indicated in Figure 21. The Portland Metro region's share of total private line circuit terminations was 35.9 percent in 2013.

Figure 20. Private Line Circuits Distribution: 2009 through 2013

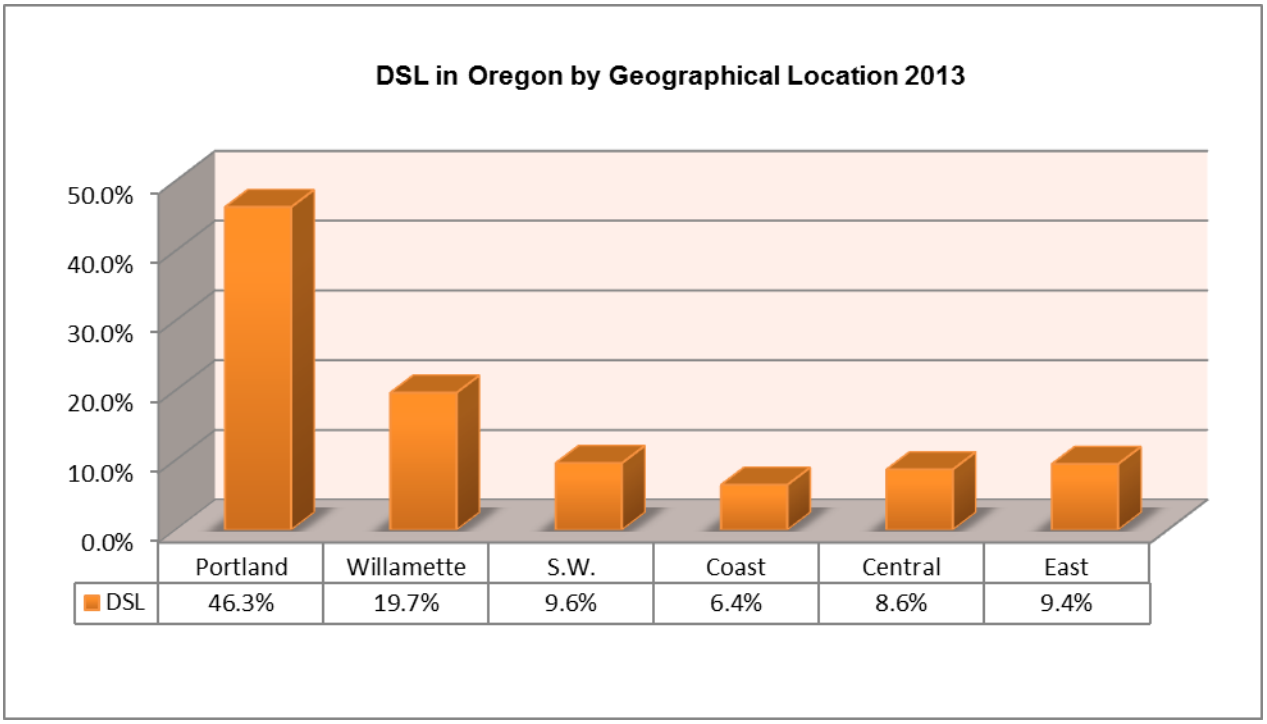


	Portland	Willamette	S.W.	Coast	Central	East
2009	64.9%	12.1%	7.4%	4.6%	6.4%	4.6%
2010	38.9%	26.0%	8.6%	8.1%	9.3%	9.1%
2011	36.7%	19.9%	12.5%	9.6%	10.9%	10.4%
2012	37.70%	21.7%	12.7%	9.9%	8.7%	9.4%
2013	35.9%	24.1%	12.5%	8.7%	10.1%	8.7%

C. DSL Service by Region

DSL (here referring to all types of digital subscriber lines) service was provided by 365,228 lines in 2013 and generated $157.4 million in revenue. Of all DSL, 46.3 percent was in the Portland Metropolitan region (see Figure 22), followed by the Willamette Valley (19.7%), Southwest Interior (9.6%), Coast (6.4%), East (9.4%), and Central (8.6%) regions.

Figure 21. Oregon DSL by Region

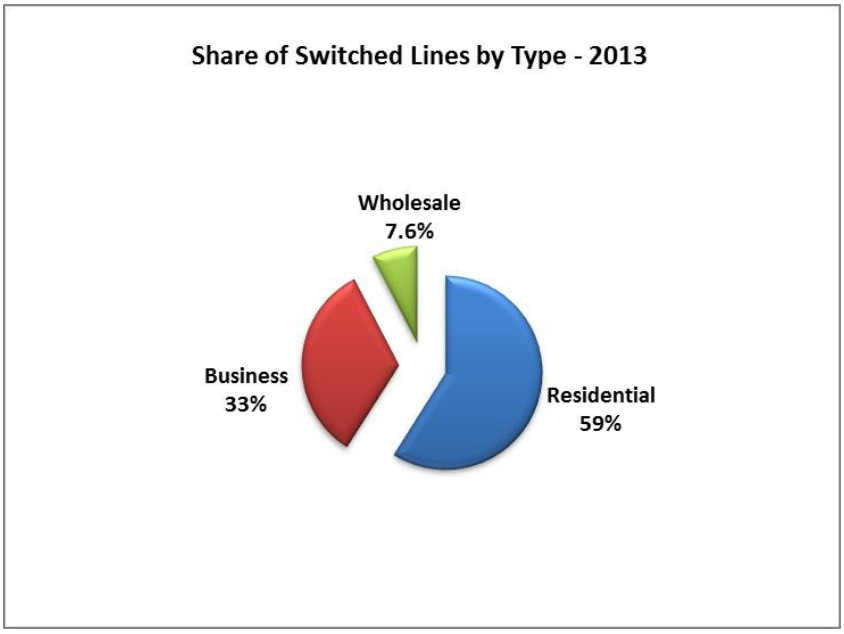


2. Customer Markets by Type of Service

A. Switched Services

The survey grouped customers into three markets: residential, business, and wholesale. Approximately 59 percent of switched service lines were in the residential market, 33.4 percent were in the business market, and 7.6 percent were wholesale (see Figure 23).

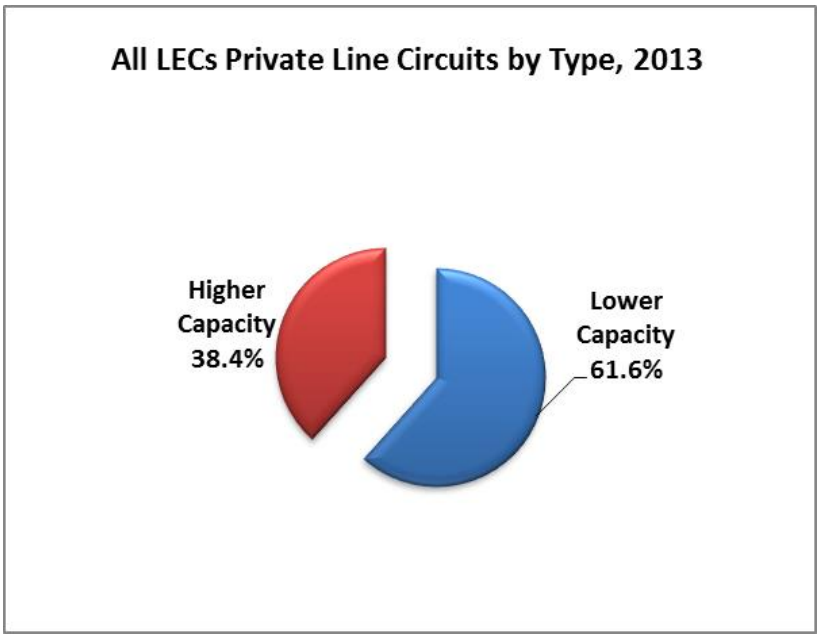
Figure 22. Switched Service Lines by Market



B. Private Line

Figure 24 shows that 61.6 percent of private line circuits were of lower capacity, and that 38.4 percent were of higher capacity.

Figure 23. Oregon Private Line Circuits by Types



C. DSL

The landline phone companies have provided DSL service. In Oregon, DSL service provided 365,228 residential and business lines and accounted for $157.4 million of revenue in 2013. Average DSL revenue per month was $35.94 per line.

Oregon's DSL market had declined in both 2011 (8.9%) and 2012 (3.3%) from previous years. However, 2013 saw a slight increase of 1.8 percent over 2012, an additional 6,430 subscriptions.

Total High-Speed Digital Access in Oregon

Four primary types of technologies are used to provide high-speed residential Internet access in Oregon: digital subscriber line (DSL) service, cable, satellite, and wireless (cellular).

DSL Internet access is provided by LECs using standard phone lines;

Cable Internet access is provided by providers of cable television over their facilities and requires a cable modem;

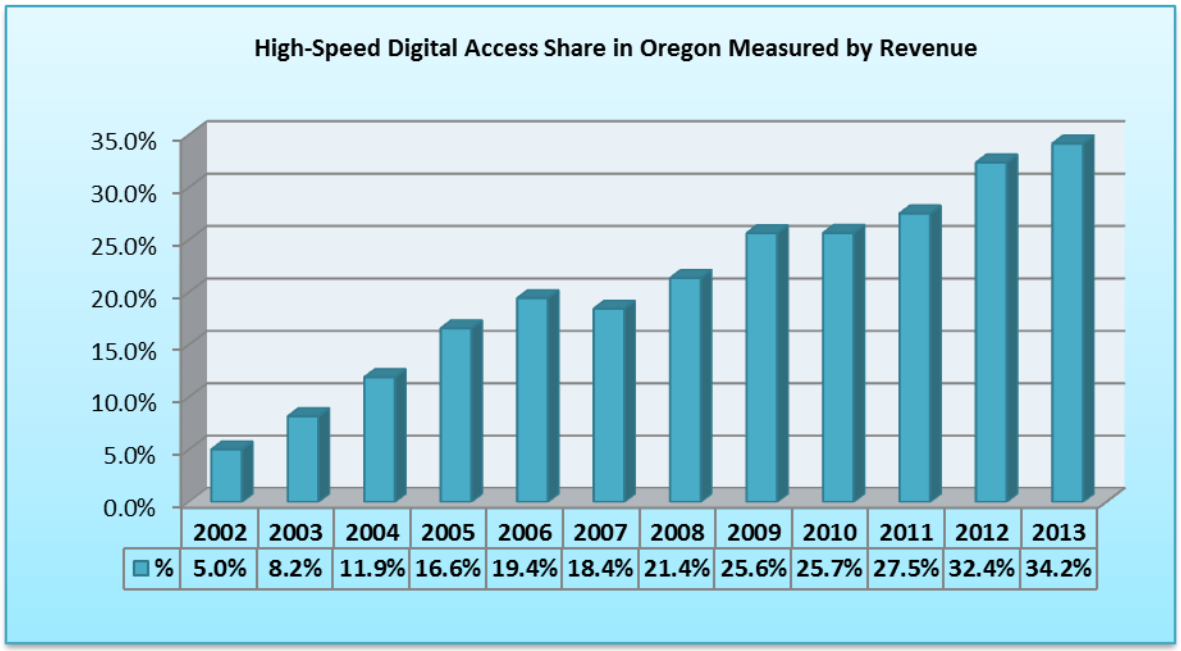
Satellite Internet access is provided by a satellite TV company;

Wireless Internet access is provided by firms providing other wireless telecommunication services.

Telephone landline companies provide DSL High-speed digital Internet access service. The DSL and Private Line services accounted for 34.2 percent of total LEC's revenue in 2013 this was an increase from 32.9 percent in 2012. The 34.2 percent revenue figure for high-speed access services consists of 8.3 percent of total revenues from private line services, and 25.9 percent from DSL service.

Figure 25 below demonstrates the growth of high speed digital access as a percentage of both ILEC and CLEC total revenue.[15] In 2002, combined intrastate private line and xDSL revenue comprised just 5 percent of total revenues. It has increased steadily to a high of 34.2% in 2013. Of this total, 25.9 percent of this revenue is from xDSL service. It is important to remember that these figures do not include broadband service provided by cable companies.

Figure 24. Trend of Private Line and xDSL Access in Oregon



[15] Total revenue here is limited to switched access lines, intrastate private lines and xDSL.

VIII. Business Plans and Competition

1. Capital Expenditures

Capital expenditures are funds spent to acquire or upgrade physical assets such as telecommunication switches and fiber optic cable. The survey asked for information on investment in capital assets. Capital expenditures in 2013 associated with providing local exchange service in Oregon were estimated at $150 million.

Of the 227 certified CLECs, 24 percent (55 of 227) reported capital expenditures totaling less than $10,000. Total 2013 CLEC capital expenditures were an estimated $60.7 million. CLECs' total estimated 2013 capital investment represented 33.6 percent of CLECs' revenue ($180.5 million).

Twenty-nine of the 32 certified ILECs reported capital expenditures in 2013. Total ILEC capital expenditures were an estimated $89.3 million.

Table 11. 2013 Capital Expenditures for Local Exchange Service

Capital Expenditures	ILECs	CLECs	All LECs
Less than $10,000	2	55	57
$10,000-50,000	2	7	9
$50,001-100,000	2	3	5
$100,001-1,000,000	11	11	22
$1,000,001-10,000,000	9	9	18
More than $10,000,000	3	1	4
# of LECs making Capital Expenditures	29	86	115
Estimated Expenditures ($millions)	$89.3	$60.7	$150.0

2. Competition for Residential Market

In response to the question "What do you believe are the reasons that you do not have a bigger share of Oregon's residential market?”17 of 32 ILECs (53%) noted that cell phone usage has reduced the demand for wireline (including second-line) services (see Table 12). Eight (8) ILECs said the lower residential customer density (than that for business) made providing residential services difficult or expensive.

Of the 210 CLECs who returned surveys, 148 responded to the question. Twenty-five (25) of the responding CLECs said they could not compete on price, 14 said they could not compete on facilities, 13 said that the incumbent local exchange carrier has name familiarity, and 9 said that they did not have enough capacity. Only 18 of the 148 CLECs responding to the question (15.5%) responded that cell phone usage has reduced the demand for residential wireline services, and 16 CLECs considered geographic location made competition for residential customers difficult or expensive.

Table 12. Residential Market Competition: 2013

Reasons	# of ILECs	# of CLECs
Cannot compete on price	6	25
Cannot compete on facilities	2	14
ILEC has name familiarity	0	13
Do not have enough capacity	0	9
Cell phone decreased the wireline demand	17	18
Hard to compete due to location	8	16
Other (explain):	12	35

Of the 35 CLECs who checked the "other" option, most stated they focused their activity on business customers or did not provide residential local exchange service in 2013. However, some of these 35 CLECs provided other reasons why they did not have a larger share of Oregon's residential market. Comments of these respondents included the following:

- UNE rates for DSO's are above ILEC retail phone rates. In many cases, they are 3 times retail phone rates.
- The ILEC sells ADSL services for less than the UNE rates to CLEC's. ILEC is not allowing CLEC's to use the ILEC fiber facilities after removing the copper feeder cables.
- The ILEC charging $20,000 to attach 4 connectors on existing power cables; it's 3 hours work max. The PUC needs to split the ILEC service side from the CO wire centers to enhance competition.
- ILEC has subsidized facilities.
- Business model focuses on wholesale and large business customers.
- Did not target Oregon for local services.
- We provide services to multi-national business only. Services in Oregon contingent upon our customers having office locations in Oregon.
- No interest in capturing residential market.
- [CLEC] no longer actively offering telecommunications services in Oregon.
- ILECs do not provide wholesale services in a non-discriminatory fashion, where they fill their orders days before fulfilling wholesale orders for the same type services.
- The company resells only; no infrastructure in Oregon.
- Competition from cable provider.
- We are serving a tribal reservation and continue to add lines as we expand our network.

3. Landline telephone industry is shrinking

The survey shows that we are facing a shrinking landline market while the customer demand for traditional landline service is slowing.

Reasons for the shrinking landline market include the development of fiber optics, cable telephony, and other new technologies, which provide substitutes for traditional landline phone service in some areas. In addition, an increasing number of households have dropped landlines altogether and subscribe only to wireless telephone services.

According to this survey, Oregon's landlines provided by the traditional telephone companies have decreased from 2.1 million lines in 1999, when this survey first started, to 1.4 million in 2013, and revenue dropped from $976 million in 1999 to $608.7 million in 2013.

IX. Conclusions

Oregon's local telecommunications market in 2013 was a $608.7 million industry, and included 1.44 million switched lines, 14,026 intrastate private line circuits, and 365,228 digital subscriber lines (xDSL). Industry-wide, revenues for switched, private line and xDSL services in Oregon declined $90.9 million from those of 2012. The number of switched lines served is 34 percent lower than it was when this survey was first taken in 1999. Since 2007 the number of switched access lines has decreased each year. The decrease reflects the competitive impact of providers of cellular phone, and both mobile and fixed high-speed Internet access services.

Competitive entry shows a relatively flat trend over the last several years and Oregon's local telecommunications markets, particularly residential and small-business, remain dominated by the incumbent providers and cable telephone companies. Compared to 1998 when ILECs had about 95 percent of all 2.1 million landlines in Oregon, competitive landline companies have gained 41.7 percent of a steadily shrinking landline market.

CLECs' residential market share climbed from less than 1 percent in 1998 to 44.7 percent in 2013. CLEC residential market shares remained in the single-digit percentile range until the year 2007. That year CLEC's Residential market share hit above 10 percent for the first time, when cable operators began to gain a significant share of residential customers. Since 2007, CLEC residential market share has steadily increased each year.

In 2012, ILEC's landline telephone count slid below one million lines for the first time since 1999, the first year that this survey was conducted. The number of ILEC telephone landlines in Oregon fell to 838,130 in 2013, a decline of 1.28 million lines from 2,116,322 recorded in 1998.

There appears to be insufficient incentive for traditional CLECs (those that are not cable companies) to compete in the local residential market, whereas cable companies with an existing coaxial line to most homes have been the only landline competitors able to compete on price.

High-speed digital access accounted for 34.4 percent of total LEC revenue in 2013. This was an increase from 32.9 percent in 2012. The 34.4 percent revenue figure for high-speed access services consists of 8.4 percent from intrastate private line services and 26 percent from DSL.

Capital expenditures in support of providing local exchange service in Oregon in 2013 were estimated at $150 million, which equated to 20 percent of total revenue ($608.7 million). Capital investment by ILECs equated to 16.4 percent of ILEC revenues, while CLECs invested an amount equivalent to 33.6 percent of CLEC revenues.

In the residential local exchange market, 23 CLECs said they could not compete on price; 14 thought they could not compete on facilities; 13 believed that the incumbent carrier's name familiarity was a barrier; nine answered that they did not have enough capacity; 18 responded that cell phone usage has decreased the demand for residential wireline and second-line services; and 16 indicated that geographic location made residential competition difficult or expensive.

Seventeen (17) of the 32 ILECs noted that increased cell phone usage has decreased the demand for wireline and second-line services. Six ILECs said they could not compete on price, and eight ILECs said they were restrained by their geographic location, which made providing residential competition difficult or expensive.

The largest 2013 CLEC market concentration was in the Portland Metropolitan region, where CLECs provided 61.5 percent of business lines and 37.8 percent of residential lines.

CLECs have a 44.7 percent share of the residential market. CLECs' share of residential lines has increased from 0.7 percent in 1998 to 44.7 percent in 2013. The main driver of CLECs' residential share increase is twofold: a shrinking denominator, i.e. the decline in the total number of residential landlines; and the entry of cable companies into the market providing fixed interconnected VoIP as a substitute for traditional switched access service.

Despite the broadband competition from cable companies, Oregon LECs' digital subscriber line (DSL) subscriptions increased by 1.8 percent to 365,228 in 2013, though the numbers are still down 10.3 percent from a high of 407,440 in 2010.

New technologies have had a significant impact on telecommunications markets. The use of xDSL, cable, satellite and wireless technologies to provide high-speed Internet access service are available to the market. These technologies have facilitated the introduction of products and services having significantly improved or new features. Historically, these new products and services have often replaced traditional telephony products and services.