

# LOCAL TELECOMMUNICATION COMPETITION SURVEY

## YEAR 2007 REPORT

Economic Research and  
Financial Analysis Division

Public Utility Commission of Oregon

December 2007

## TABLE OF CONTENTS

- Executive Summary ..... 2
- I. Purpose of the Survey ..... 7
- II. Survey Participants and Responses ..... 7
- III. Service Types ..... 8
  - 1. ILEC Service Types ..... 8
  - 2. CLEC Service Types ..... 9
- IV. Switched Services – Market Size and Share Analysis..... 11
  - 1. Market Size and Shares ..... 11
    - A. Business Market Share ..... 15
    - B. Residential Market Share..... 17
  - 2. CLEC Provisioning ..... 18
  - 3. Market Trends in Switched Access Services..... 18
- V. High Speed Access Services..... 23
  - 1. Market Size and Share..... 23
    - A. Private Line Service ..... 23
    - B. DSL Service..... 24
  - 2. CLEC Provisioning ..... 25
  - 3. Market Trends in Local Private Line and DSL Services ..... 25
- VI. Market Segments by Region and Type of Service..... 26
  - 1. Market Segments by Regions ..... 27
    - A. Switched Services by Region ..... 27
    - B. Private Line Service by Region ..... 29
    - C. DSL Service by Region..... 31
  - 2. Market Segments by Types..... 32
    - A. Switched Services ..... 32
    - B. Private Line ..... 32
    - C. DSL..... 33
- VII. Business Plans and Competition ..... 34
  - 1. Capital Expenditures ..... 34
  - 2. Competition for Residential Market ..... 34
- VIII. Conclusion..... 36

## Executive Summary

In January 2007, the staff of the Public Utility Commission of Oregon (OPUC) sent its ninth survey to the 260 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 provide information about the local services they provided in 2006. Survey responses were received from all 34 ILECs and 210 out of 226 CLECs, for a total response rate of 94 percent.

### HIGHLIGHTS

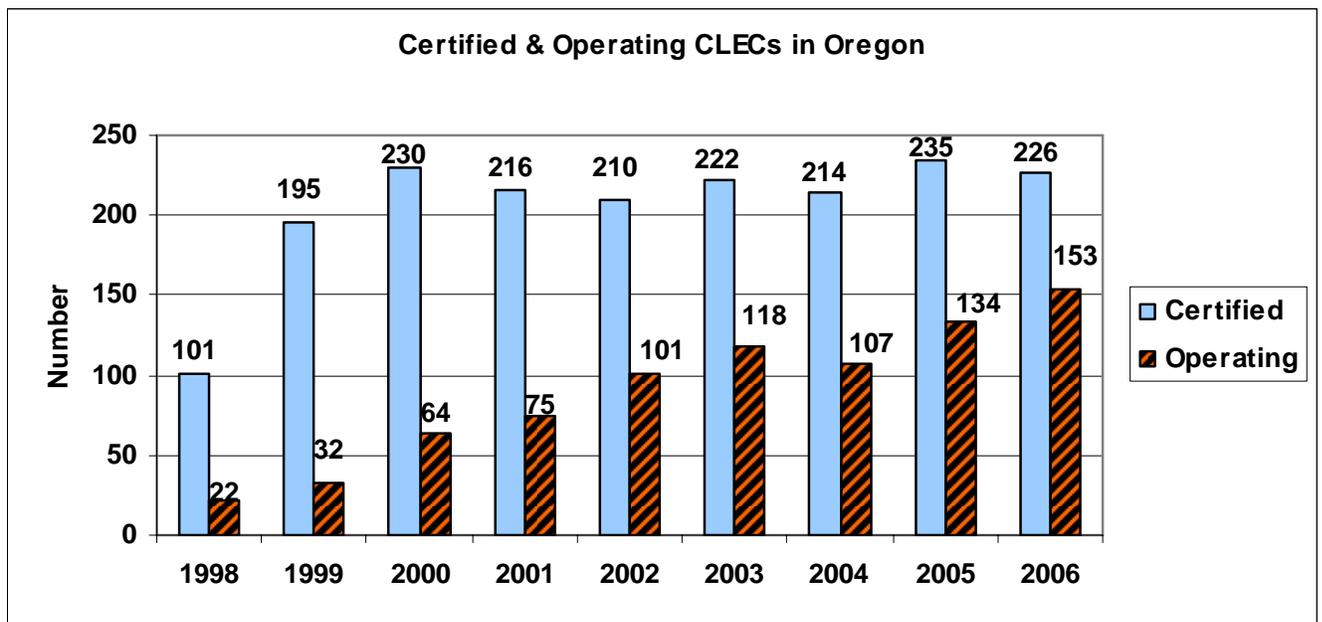
Total Oregon Local Exchange Service Revenue 2006.....	\$925 Million
ILEC Revenue - \$Millions / Share .....	\$742 / 80%
CLEC Revenue - \$Millions / Share.....	\$183 / 20%
Total Switched Lines at Year-end 2006.....	1,983,307
ILEC Switched Lines / Market Share.....	1,652,900 / 83%
CLEC Switched Lines / Market Share .....	330,407 / 17%
Total Residential Switched Lines at Year-end 2006.....	1,194,583
ILEC Residential Switched Lines / Market Share .....	1,132,261 / 95%
CLEC Residential Switched Lines / Market Share .....	62,322 / 5.2%
Total Business Switched Lines at Year-end 2006 .....	667,578
ILEC Business Switched Lines / Market Share .....	404,384 / 61%
CLEC Business Switched Lines / Market Share.....	263,194 / 39%
Total Wholesale Switched Lines at Year-end 2006.....	121,146
ILEC Wholesale Switched Lines / Market Share .....	116,255 / 96%
CLEC Wholesale Switched Lines / Market Share.....	4,891 / 4%
Change from prior Year - Total Switched Lines / % Change .....	-167,448 / -8%
Change from prior Year - ILEC Switched Lines / % Change .....	-150,932 / -8%
Change from prior Year - CLEC Switched Lines / % Change .....	-16,516 / -5%
Unbundled Network Elements Platform UNE-Ps, Lines .....	120,639
CLECs Having Certificates .....	226
CLECs Doing Business / % of Total CLECs.....	153 / 67%
Total Number of Private Line Circuits .....	40,077

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Lower Capacity Circuits / % of Total.....	29408 / 73%
Higher Capacity Circuits / % of Total.....	10,669 / 27%
Total Number of DSL.....	333,318
All LEC Capital Expenditures - \$Millions / % of Revenue .....	\$.171 / 18.5%
CLEC Capital Expenditures - \$Millions / % of Revenue.....	\$.52 / 29%
ILEC Capital Expenditures - \$Millions / % of Revenue.....	\$.119 / 16%

Growth in the number of operating competitive local exchange providers has leveled off over the last several years. While over the last eight years, the number of certified CLECs increased from 101 to 226 and the number of CLECs actually providing services in Oregon has increased from 22 to 153.

**CLEC Certificate Trends 1998 to 2006**



As of December 2006, 153 out of the 226 certified CLECs reported that they were actually providing local exchange services (67.7%, up from 57% in 2005). By using a widely recognized measure of market share, percentage of local switched telephone lines, CLEC market share was 16.7 percent (up from 16.1% in 2005). According to the survey responses, competitive entry in Oregon's telecommunications market is still small in the residential sector. In 2006, CLECs had a 5.2 percent (down from 7.3% in 2005) share of the Oregon residential market. Most competitive entry is in the business sector. CLECs were supplying 39.4 percent (up from 37% in 2005) of business customers' switched local exchange lines statewide.

The number of total Oregon LEC switched local exchange lines dropped 7.8 percent, from 2.15 million (after data correction by CLECs) in 2005 to 1.98 million in 2006. The following table summarizes the switched lines serviced in Oregon.

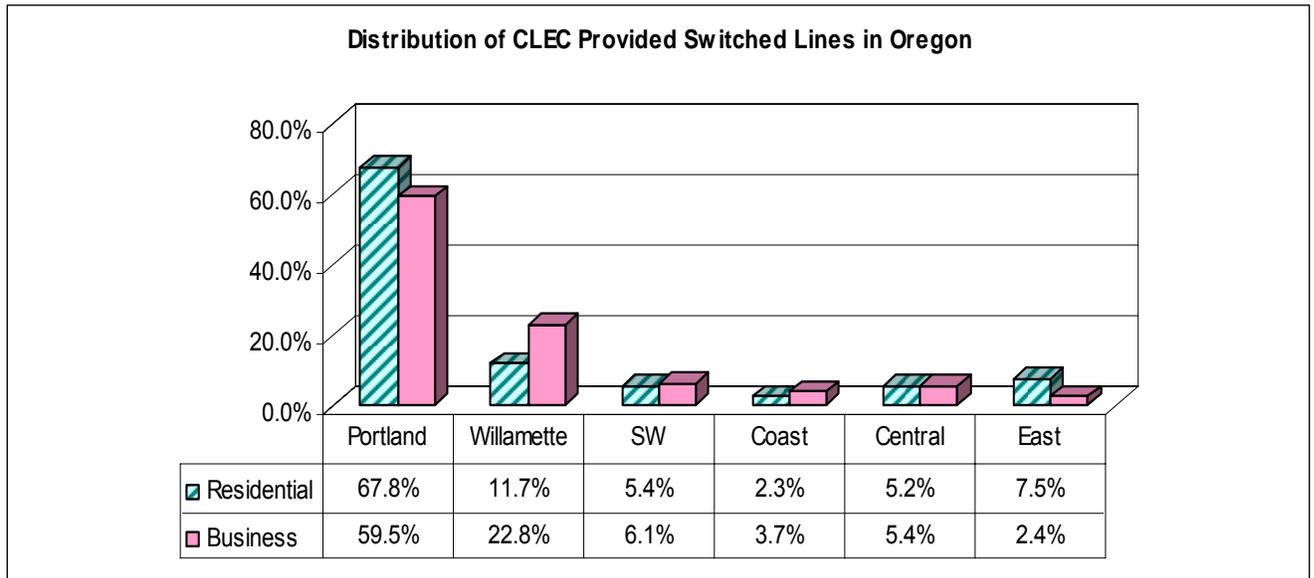
**All LECs Switched Services: Lines (000s) and Shares (%)**

<b>2006</b>	<b>Total</b>	<b>Residential</b>	<b>Business</b>
<b>ILECs</b>	<b>1,653</b>	<b>1,132</b>	<b>404</b>
<b>CLECs</b>	<b>330</b>	<b>62</b>	<b>263</b>
<b>All-LECs</b>	<b>1,983</b>	<b>1,195</b>	<b>668</b>
<b>ILECs</b>	<b>83.3%</b>	<b>94.8%</b>	<b>60.6%</b>
<b>CLECs</b>	<b>16.7%</b>	<b>5.2%</b>	<b>39.4%</b>
<b>All-LECs</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Competitive entry into the telecommunications market varies across different regions in Oregon. In Portland, and the Willamette Valley, CLECs were providing 59.5 percent and 22.8 percent of business customers' switched local exchange lines respectively. While on the Coast, Central, Southwest and Eastern Oregon CLECs were providing 18 percent of switched lines to business customers.

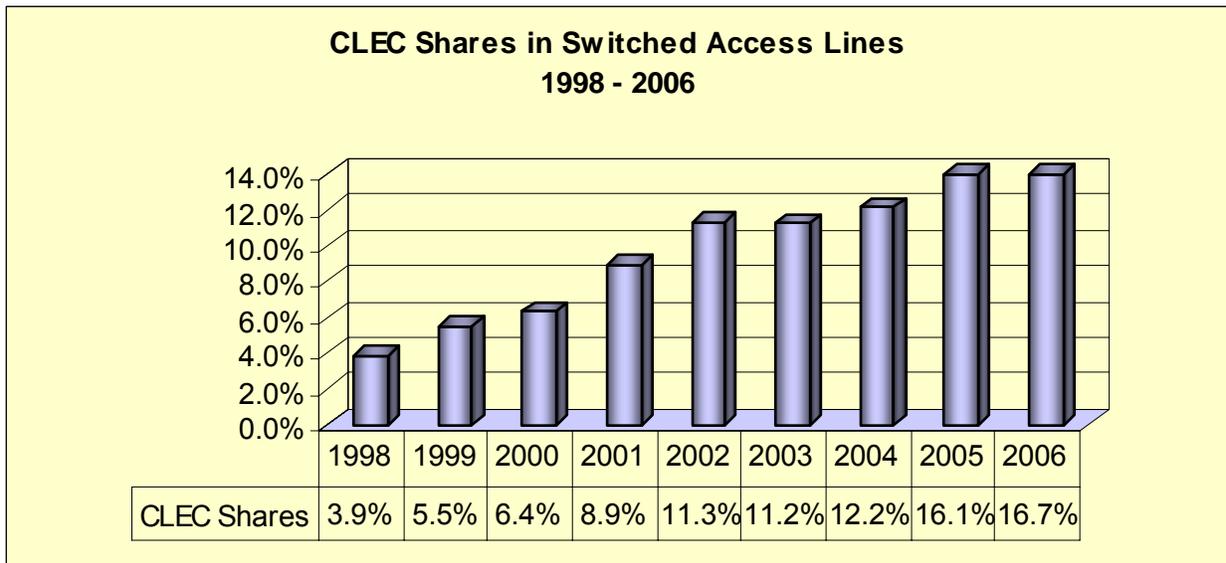
Of the 1.98 million switched access lines served by all local exchange carriers, 60 percent were residential lines. Out of 1.19 million residential lines, CLECs served 5.2 percent. Forty-three percent of all residential lines were in the Portland area. Out of this 43 percent residential service in Portland, CLECs served 8 percent.

**Distribution of Switched Access Lines Provided by CLECs**



About 60 percent of CLEC's business lines and 68 percent of residential lines were in the Portland Metropolitan area. CLEC switched service revenues were \$155 million in 2006, from \$136.7 million in 2005.

**Growth of Competition in Oregon 1998 – 2006**



The share of switched access lines served by CLECs at the end of 2006 represented 16.7 percent of total access lines in Oregon, compared to a CLEC share of 17.0 percent

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across the entire country at the end of June 2006. CLECs have 5.2 percent of the residential market in Oregon compared to 12 percent nationally. In the business market CLECs have 39.5 percent in Oregon compared to 26 percent across the country.<sup>1</sup>

The number of CLEC lines in Oregon decreased by 4.8 percent in 2006, from 346,923 to 330,407. By comparison, total ILEC lines decreased by 8.4 percent during the preceding year, from 1,803,832 to 1,652,900.

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<sup>1</sup> Source of national data is the January 31, 2007, FCC Data Release on "Local Telephone Competition"

## I. 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 local exchange services in Oregon. This study is a key component of the 1999 Oregon legislation requiring the OPUC to report on telecommunications issues.

## II. Survey Participants and Responses

In January 2007, the Commission staff sent a survey to all 260 carriers currently holding a certificate issued by the Commission to provide local services in Oregon. Of the 260 LECs, 34 are ILECs, and 226 are CLECs. The ILECs consist of 23 telecommunications utilities and 11 cooperatives. These are the traditional local telephone service providers in the state. CLECs compete with the traditional carriers. The survey asked all LECs to provide information regarding their operations in 2006.

All 34 ILECs responded to the survey. For CLECs, 210 out of the 226 (92.9%) responded. The overall response rate for LECs was 93.8 percent (Table 1). In 2006, 71.9 percent (62% last year) of all certified carriers were actually providing services, 100 percent of ILECs and 67.7 percent (57% last year) of CLECs (153 out of 226). For purposes of this analysis, we assume that all non-responding CLECs were not providing local service in Oregon.

**Table 1. Survey Response Rates and Service Operation Rates**

2006	Survey Sent	Responded	Response Rate %
<b>Total LECs</b>	<b>260</b>	<b>244</b>	<b>93.8%</b>
<b>ILECs</b>	<b>34</b>	<b>34</b>	<b>100.0%</b>
<b>CLECs</b>	<b>226</b>	<b>210</b>	<b>92.9%</b>
	Survey Sent	Service Provided	Operation Rate %
<b>Total LECs</b>	<b>260</b>	<b>187</b>	<b>71.9%</b>
<b>ILECs</b>	<b>34</b>	<b>34</b>	<b>100.0%</b>
<b>CLECs</b>	<b>226</b>	<b>153</b>	<b>67.7%</b>

### III. Service Types

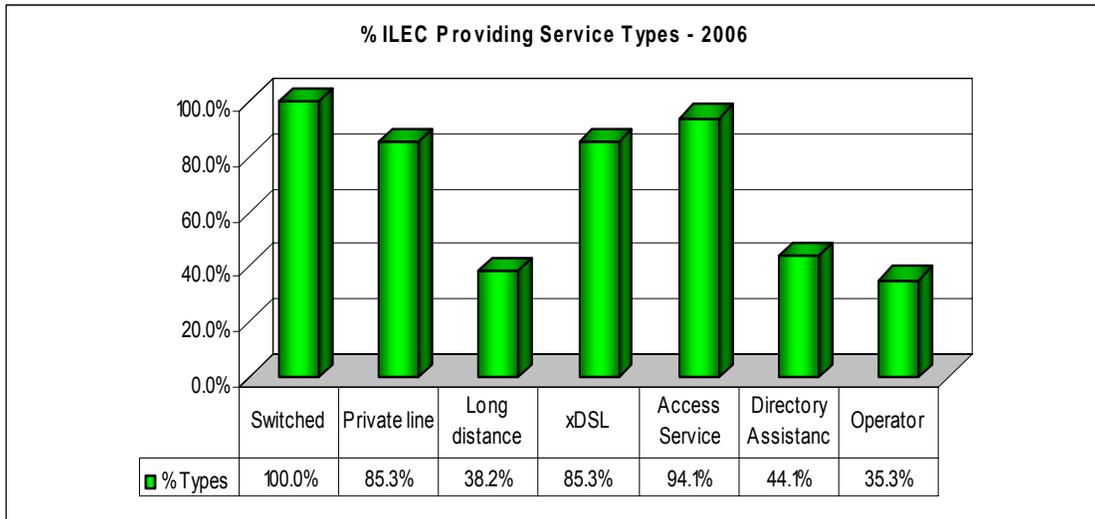
#### 1. ILEC Service Types

All 34 ILECs provided local exchange switched service to retail customers. Local switched services include dial tone, local (toll-free) calling, directory listings, and various features such as call waiting and caller ID. Local exchange private line (i.e., dedicated, point-to-point) services also include DSL (Digital Subscriber Lines) services. ILEC service types and the percentage providing each type for 2006 are shown in Table 2 and Figure 1.

**Table 2. Market Coverage for General Services – ILECs**

Service Types	# of ILECs	% of ILECs
	Providing Service	Providing Service
Local Exchange Switched Service	34	100.0%
Local Exchange Private Line Service:	29	85.3%
Lower Capacity	29	85.3%
Higher Capacity	19	55.9%
Long Distance Service	13	38.2%
xDSL (Digital Subscriber Line)	29	85.3%
Access service	32	94.1%
Directory Assistance	15	44.1%
Operator	12	35.3%
Telecom using Cable TV Facilities	0	0.0%
Telecom using VoIP	0	0.0%
Others	10	29.4%

**Figure 1. Service Types and Distributions – ILECs**



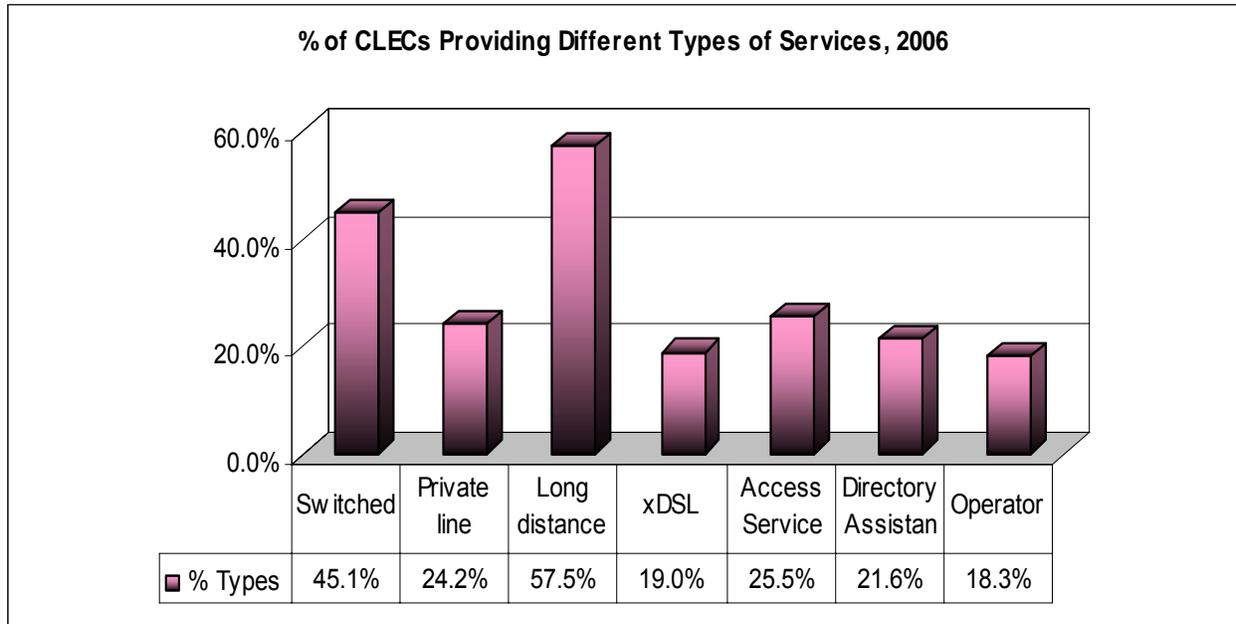
## 2. CLEC Service Types

As of December 2006, of the 226 certified CLECs, 153 (68%) were providing some kind of telecommunications service in Oregon (up from 57% in 2005). We assume that only those CLECs that responded to our survey were providing services in Oregon. Of the 153 CLECs that were providing services, 69 were providing local exchange service (up from 58 in 2005). Eighty-eight CLECs were providing long distance service (up from 73 in 2005), and 37 were providing inter-exchange private line services. The CLECs service types and distributions are shown in Table 3 and Figure 2.

**Table 3. Market Coverage by General Services – CLECs**

CLEC Service Types	#of CLECs Providing Service	% of CLECs Providing This Service
<b>Operating CLECs</b>	<b>153</b>	
Local Exchange Switched Service	69	45.1%
Local Exchange Private Line Service:	37	24.2%
Lower Capacity	23	15.0%
Higher Capacity	32	20.9%
Long Distance Service	88	57.5%
xDSL (Digital Subscriber Line)	29	19.0%
Access service	39	25.5%
Directory Assistance	33	21.6%
Operator	28	18.3%
Telecom using Cable TV Facilities	4	2.6%
Telecom using VoIP	9	5.9%
Others	44	28.8%

**Figure 2. Service Types and Distributions – CLECs**



## IV. Switched Services – Market Size and Share Analysis

### 1. Market Size and Shares

The market share of ILECs has fallen in the local market as CLEC services have expanded. In 2006, there were 153 CLECs competing in the local telecommunication services market. The CLECs as a group had a market share ranging between 7.6 percent and 20.1 percent, depending on how market share is measured. In this report, market share is measured in three ways: (1) customers, (2) lines, and (3) revenues.

**Table 4. Oregon Switched Service Market Shares – 2006**

2006	Customers	Lines	Revenue-\$millions
ILECs	1,214,017	1,652,900	615.8
CLECs	100,236	330,407	154.8
<b>Total</b>	<b>1,314,253</b>	<b>1,983,307</b>	<b>770.5</b>
%	Customers	Lines	Revenue
ILECs	92.4%	83.3%	79.9%
CLECs	7.6%	16.7%	20.1%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

(1) The CLEC share of retail customers<sup>2</sup> was 7.6 percent. Few customers obtained local exchange switched services from anyone other than their traditional supplier, the ILEC. According to the survey responses, Oregon LECs were providing local exchange switched services to 1,314,253 Oregon customers. ILECs served 1,214,017 (92.4 percent) of the total, while CLECs served 100,236 customers (7.6%). (See Table 4).

(2) The CLEC share of retail lines<sup>3</sup> was 16.7 percent in 2006 (Figure 3). All Oregon LECs were supplying 1,983,307 (down 7.8% from last year) local switched telephone lines to retail customers. Of that total, the ILECs were supplying 83.3 percent (1,652,900 or 8.3% less than the prior year) of all lines leaving the CLECs with the remaining 330,407 (16.7% of total and a 4.8% decrease from the prior year). The CLECs were supplying an average of 3.3 lines per customer (up from 2.7 in 2005),

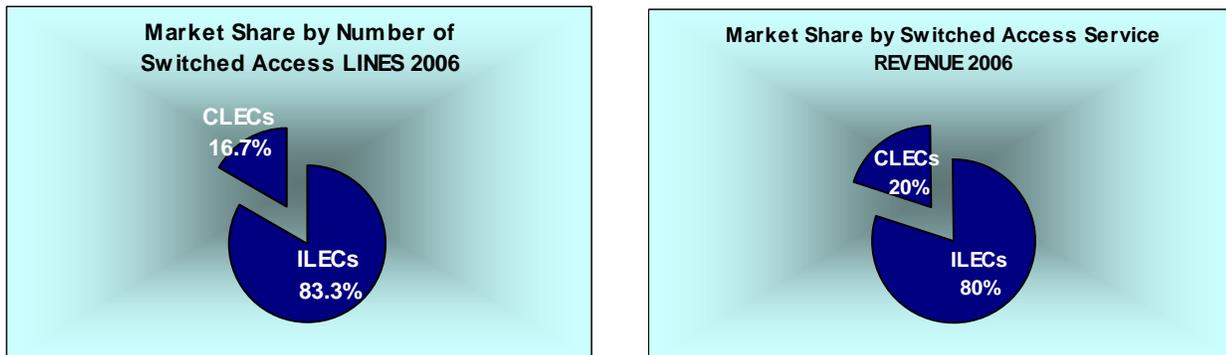
<sup>2</sup> The survey defined "**customer**" as "any person or entity that has a physical location within Oregon, and has applied for, been accepted, and receives service for a price. Included are residential and business end users (i.e., retail customers), as well as other telecommunications carriers (i.e. wholesale customers)."

<sup>3</sup> The survey defined "**local exchange lines**" as "voice level transmission paths (64kbps digital or <4kHz analog) that link an end user location with the switching center that provides dial tone. For ISDN, each B channel was counted as one line. For Centrex, each station line was counted as one line."

while ILECs were supplying an average of 1.4 lines per customer (same as the prior year).

(3) The CLEC share of retail revenues<sup>4</sup> was 20 percent (Figure 3), up from 17.7 in 2005. In 2006, retail revenues from total switched access services in Oregon were an estimated \$770.5 million (down from \$774 million in 2005). Of the total, ILECs received \$615.8 million (down from \$637.3 million in 2005), that was 80 percent of total switched access line revenue, and CLECs captured the remaining \$154.8 million (up from \$136.8 million in 2005), or 20 percent of total switched revenue.

**Figure 3. Market Shares for Switched Service**



The CLECs achieved a higher share of revenues than lines, and a significantly higher share of revenues than customers. This is because the CLECs have concentrated on providing service to business customers. Of all CLEC switched service revenues, 74 percent was from the CLEC business sector in 2006, compared to the ILECs, where business revenue was 39 percent of total revenue in switched service. The ILECs' average annual switched service revenue per line was \$373. For CLECs, the annual switched service revenue per line was \$468 (see Table 5).

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<sup>4</sup> The survey defined "**revenues**" as the amount billed "for switched local exchange services, whether billed in advance or arrears. Include regulated and non-regulated, federal and state charges. Include charges for switched lines, local usage, extended area service (EAS), repair and maintenance services, directory listing services, and add-on features such as call waiting, voice messaging, and caller ID. Exclude taxes that your firm billed to customers."

**Table 5. Average Switched Service Customers, Lines and Revenues – 2006**

2006	CLECs	ILECs
<b>Lines / Customer</b>	<b>3.3</b>	<b>1.4</b>
<b>Revenue / Line / Year</b>	<b>\$468</b>	<b>\$373</b>
<b>Revenue / Customer / Year</b>	<b>\$1,544</b>	<b>\$507</b>

The 34 ILECs providing local exchange switched service had 92 percent of customers, (up from 91 percent in 2005), 83.3 percent of switched access lines (down from 83.9 percent) and 79.9 percent of switched service revenues (down from 82.3%) (see Table 4). Within the ILECs, the Big Four (CENTURYTEL, QWEST, UNITED/SPRINT and VERIZON) incumbent operators have the major market share of local exchange switched service in Oregon. In 2006, the Big Four had 83.9 percent of total customers (up from 83.1% in 2005), 76.7 percent of total exchange lines (down from 77.6% in 2005), and 74.4 percent of total switched service revenues (down from 76.9% in 2005).

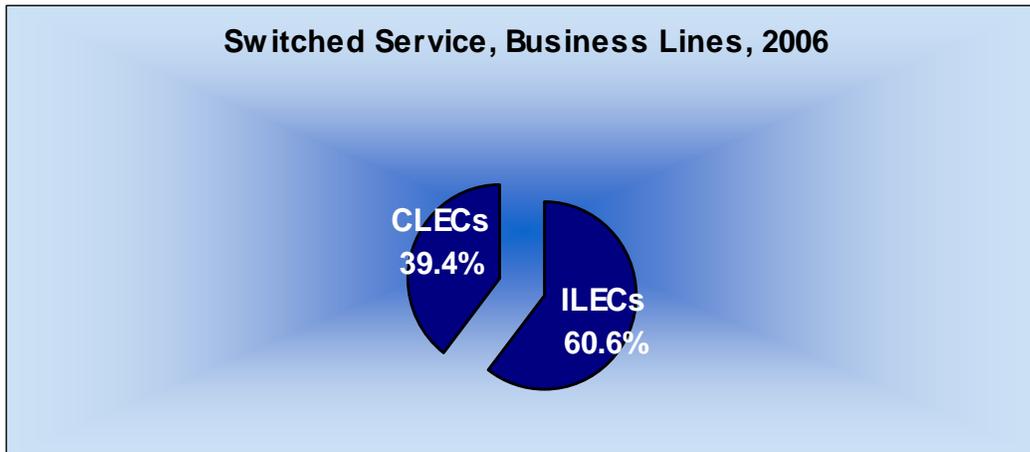
**Table 6. Market Shares of ILECs, CLECs and Big 4 ILECs – 2006**

<b>CUSTOMERS</b>	<b>ILECs/Total</b>	<b>CLECs/Total</b>	<b>Big-4 ILECs/Total</b>
<b>Residential</b>	<b>94.9%</b>	<b>5.1%</b>	<b>86.4%</b>
<b>Business</b>	<b>77.4%</b>	<b>22.6%</b>	<b>68.1%</b>
<b>Wholesale</b>	<b>99.9%</b>	<b>0.1%</b>	<b>99.9%</b>
<b>Total Customers</b>	<b>92.4%</b>	<b>7.6%</b>	<b>83.9%</b>
<b>SWITCHED LINES</b>	<b>ILECs/Total</b>	<b>CLECs/Total</b>	<b>Big-4 ILECs/Total</b>
<b>Residential</b>	<b>94.8%</b>	<b>5.2%</b>	<b>86.4%</b>
<b>Business</b>	<b>60.6%</b>	<b>39.4%</b>	<b>55.8%</b>
<b>Wholesale</b>	<b>96.0%</b>	<b>4.0%</b>	<b>96.0%</b>
<b>Total Lines</b>	<b>83.3%</b>	<b>16.7%</b>	<b>76.7%</b>
<b>REVENUES</b>	<b>ILECs/Total</b>	<b>CLECs/Total</b>	<b>Big-4 ILECs/Total</b>
<b>Residential</b>	<b>90.2%</b>	<b>9.8%</b>	<b>82.3%</b>
<b>Business</b>	<b>67.8%</b>	<b>32.2%</b>	<b>64.1%</b>
<b>Wholesale</b>	<b>90.8%</b>	<b>9.2%</b>	<b>90.8%</b>
<b>Total Revenues</b>	<b>79.9%</b>	<b>20.1%</b>	<b>74.4%</b>

**A. Business Market Share**

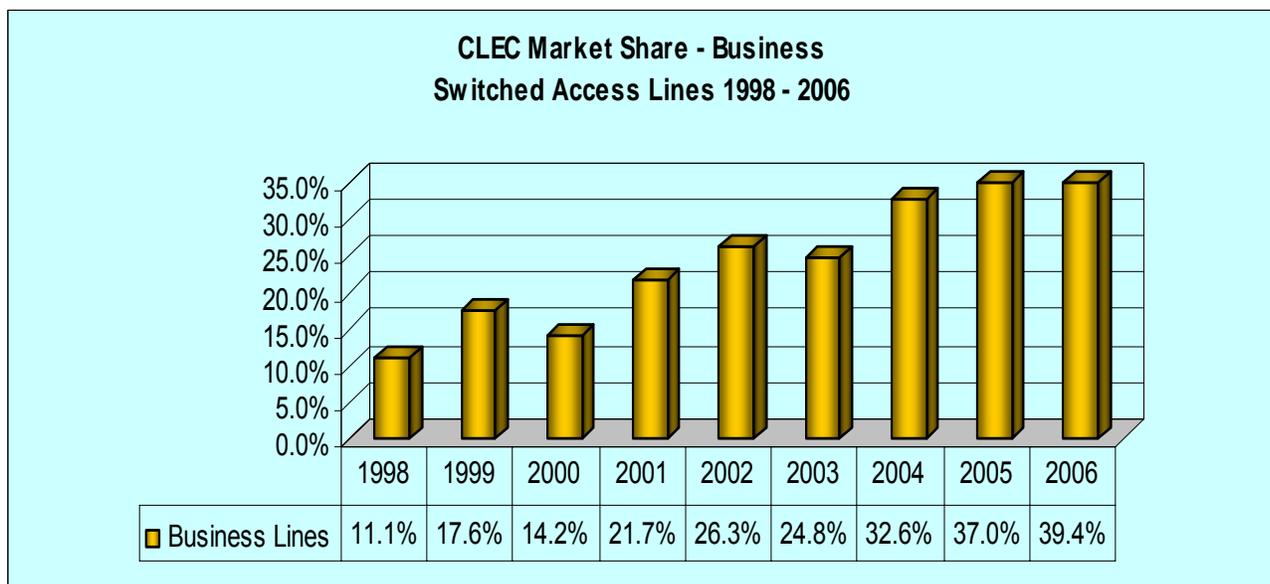
CLECs supplied service to 22.6 percent of business customers in 2006, compared to 7.6 percent of all types of customers. CLECs supplied 39.4 percent (37% in 2005) of business switched access lines (see Figure 4). This is substantially greater than the 16.7 percent CLEC share of Oregon total lines. Similarly, CLECs had a 32.2 percent (29% in 2005) share of switched business service revenues, compared to a 20.1 percent (17.7% in 2005) of total revenues in the State switched service.

**Figure 4. Business Market Share, Measured by Lines Served**



The CLEC share of business revenues was higher than their share of business lines. For CLECs, in 2006, the annual revenue per business line was \$433. For ILECs, the average was \$594 per line. CLECs' market share of switched access lines for business has increased steadily during the past eight years; the share was 11 percent in 1998, and 39 percent in 2006 (see Figure 5).

**Figure 5. CLEC Business Line Market Share Growth**



**B. Residential Market Share**

**Table 7. Switched Service RESIDENTIAL Market Shares, 2006**

Switched Service RESIDENTIAL Market Shares			
Residential	Customers	Lines	Revenues \$millions
ILECs	1,055,402	1,132,261	339.6
CLECs	57,024	62,322	37.1
<b>Total</b>	<b>1,112,426</b>	<b>1,194,583</b>	<b>376.7</b>
ILECs/Total	94.9%	94.8%	90.2%
CLECs/Total	5.1%	5.2%	9.8%

(1) The CLEC share of residential customers was 5.1 percent in 2006 (see Table 7). According to the survey, Oregon LECs were providing local exchange switched services to 1,112,426 Oregon residential customers. ILECs served 1,055,402 (94.9%) of the total, while 57,024 customers were served by CLECs.

(2) The CLEC share of residential exchange lines was 5.2 percent in 2006. Oregon LECs were supplying a total of 1,194,583 local switched telephone lines to residential customers. ILECs were supplying 94.8 percent or 1,132,261 lines, and the CLECs provided 62,322 residential lines.

In 2006, ILECs served 94.8 percent of the residential line market; the number is higher than a year earlier (92.6%). The Big-4 ILECs served 90.2 percent of residential line market, compared to 84.9 percent a year earlier. On average, typical residential local phone service is less profitable than typical business service because it costs more on a per line basis to wire an individual home than it does to wire typically more tightly clustered business buildings. About 19 percent of total CLEC lines serve residential customers, while 68.5 percent of ILEC lines serve residential customers. A greater percentage of CLEC operations focus on the more profitable business sector.

(3) Overall residential revenues from local exchange switched service in Oregon in 2006 were an estimated \$376.7 million, it was about \$396 million in 2005. Residential monthly average revenue was \$49.6 per line for CLECs, \$25 per line for ILECs.

## 2. CLEC Provisioning of Switched Service

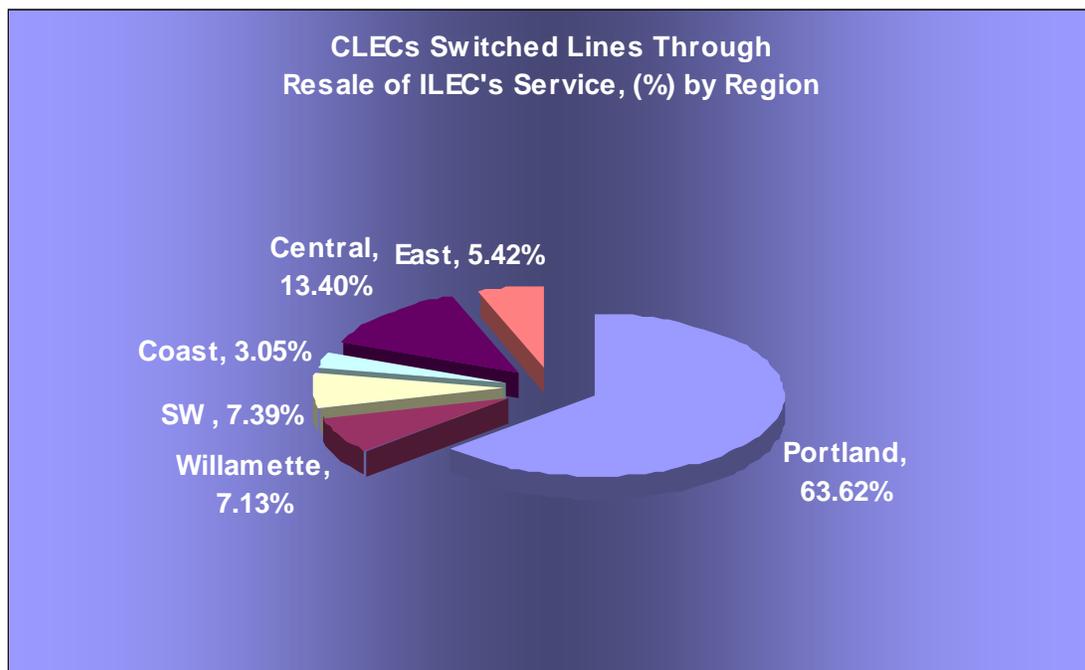
In December 2006, 47 of the 69 CLECs (68%) providing local switched service were ILEC service resellers. A CLEC reseller buys complete retail services from ILECs, and then resells those services under the CLEC's own name to consumers.

Also, about 43 percent (30/69) of CLECs providing local switched service are fully or partially facility-based providers. These fully or partially facility-based CLECs provided 249,059 switched access lines, which was 75.4 percent of total CLECs' lines, and 12.6 percent of all LECs' switched access lines.

Eighteen CLECs reported providing switched access lines or private line services by purchasing unbundled network elements platform (UNE-P) (a UNE-P is a combination of UNEs). The UNE-P number was 120,639 lines in December 2006.

Over 64 percent of resold ILEC service occurred in the Portland area. Fifteen percent of resold CLEC service occurred in the Willamette Area (see Figure 6).

**Figure 6. Market Concentration – CLEC Resale of ILEC's Lines in 2006**



## 3. Market Trends in Switched Access Services

CLECs reported 330,407 (or 16.7 percent of all LECs) of 1,983,307 statewide local switched access lines in service at the end of 2006. This represents a 4.8 percent drop in CLEC switched lines during 2006. By comparison, the number of lines served by

ILECs decreased by 8.4 percent during the preceding year, from 1,803,832 to 1,652,900 lines.

**Figure 7. Change of ILECs Market Share in Switched Services, 1998 to 2006**

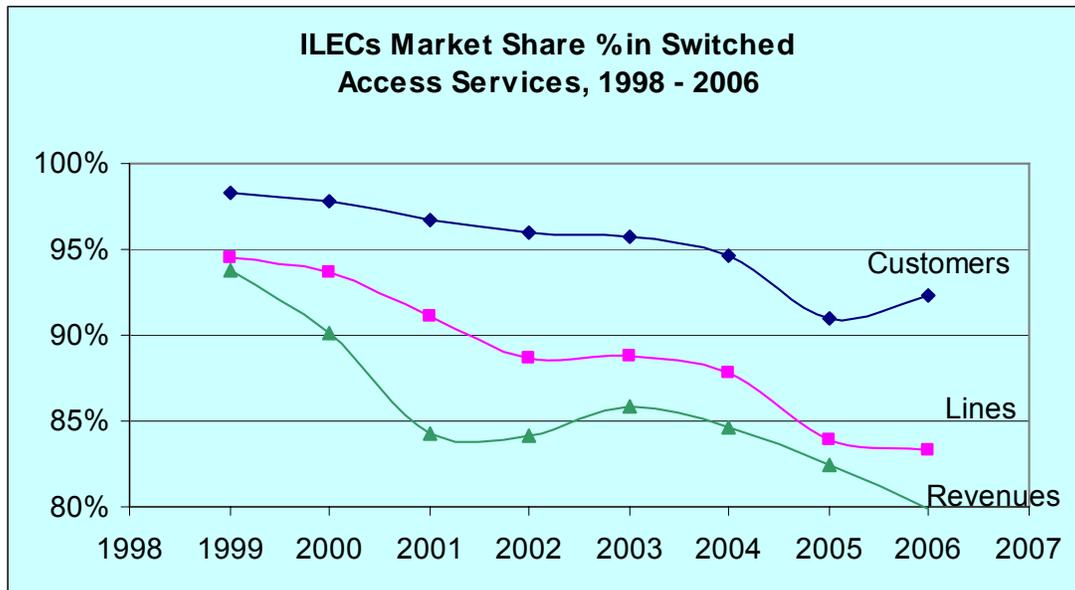


Figure 7 shows the market share of ILEC switched service is on a downward trend. CLEC revenue from the residential market was \$37.1 million in 2006, down from \$39.9 million in 2005. ILEC residential revenue was \$339.6 million, down from \$355 million. CLEC revenue from the business market was \$114 million, which was up 24 percent from 91.8 million in 2006. ILEC business revenue increased 6.8 percent to \$240 million from \$224 million.

Growth in the number of CLEC switched lines has averaged 18.5 percent over the 1998-2006 periods. During the same period the number of ILEC switched access lines has declined by 3 percent per year. The total number of lines has declined by 10 percent since 1998, likely due to the increase of cell phone use, replacing a second line with DSL, and use of cable service for Internet access.

**Table 8. Trends in Switched Access Lines, 1998 to 2006**

Date	ILEC Lines	CLEC Lines	Total	CLEC Share
Dec-98	2,116,322	85,146	2,201,468	3.9%
Dec-99	2,078,678	121,277	2,199,955	5.5%
Dec-00	2,257,594	153,578	2,411,172	6.4%
Dec-01	2,238,640	219,990	2,458,630	8.9%
Dec-02	2,115,892	270,494	2,386,386	11.3%
Dec-03	2,024,882	256,571	2,281,453	11.2%
Dec-04	1,959,459	271,344	2,230,803	12.2%
Dec-05	1,803,832	346,923	2,150,755	16.1%
Dec-06	1,652,900	330,407	1,983,307	16.7%

**Figure 8. Competitive Growth, CLEC Switched Lines**

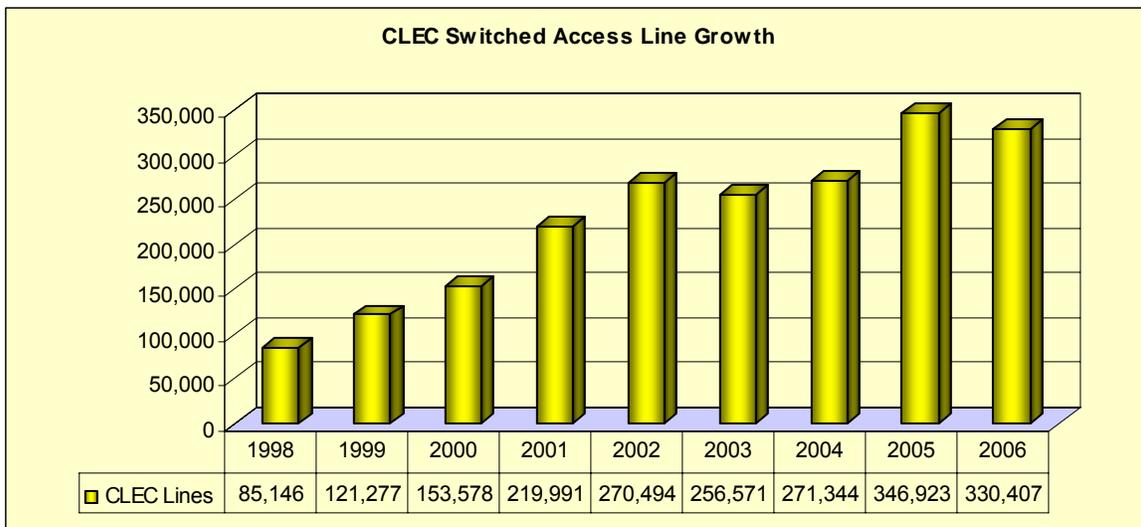
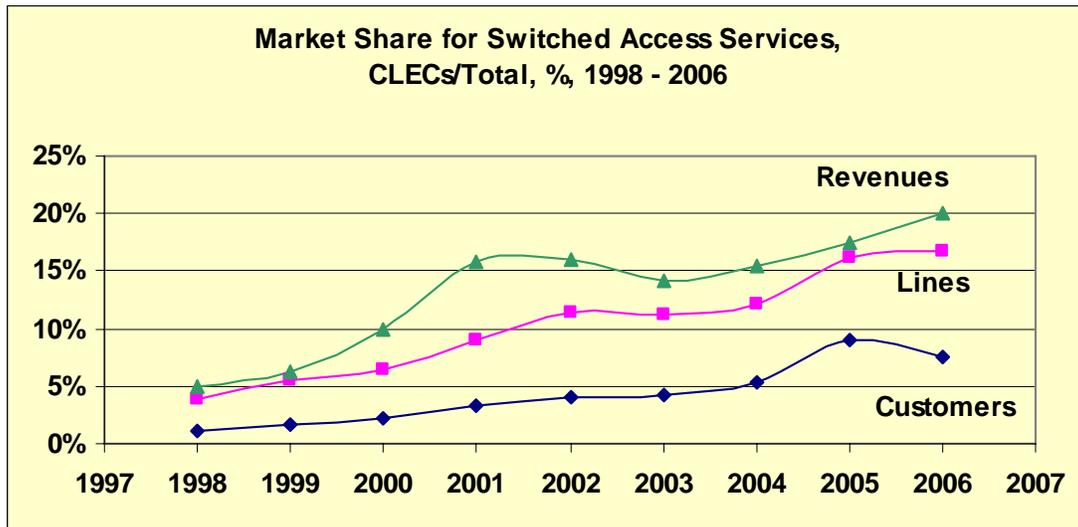


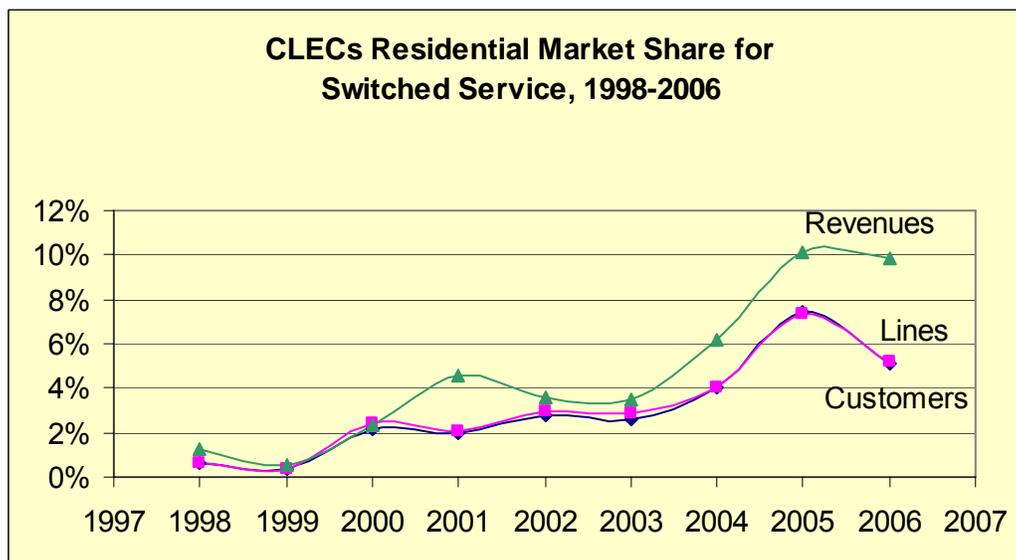
Figure 9 shows market growth for CLECs. CLEC share of switched service revenue was 20.1 percent in 2006 compared to 5 percent market share in 1998. The CLEC share of switched lines was 16.7 percent in 2006, up from 3.9 percent in 1998. Finally, the CLEC share of customers was up to 7.6 percent in 2006, from 1.0 percent in 1998. The annual increase for CLEC switched access lines in the last seven years has averaged 18.5 percent.

**Figure 9. CLECs Growth in Switched Access Services – 1998 to 2006**



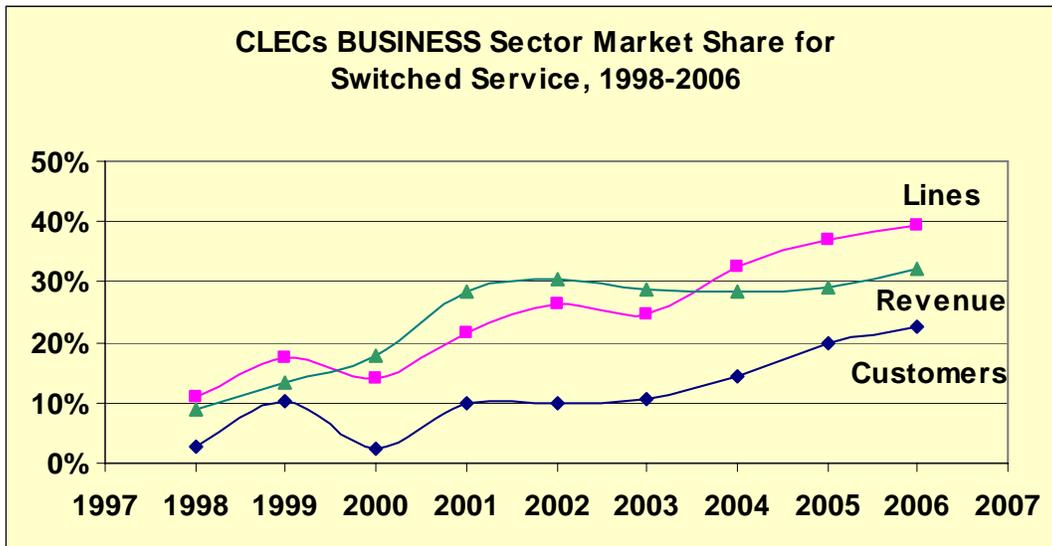
CLECs' share of residential switched service revenue increased to 10 percent in 2006 compared to 1.3% in 1998. Over the same period, CLEC's market share for both residential switched service lines and customers increased to 7.4 percent from 0.7 percent. (See Figure 10)

**Figure 10. CLECs Residential Market Share for Switched Service, 1998 to 2006**



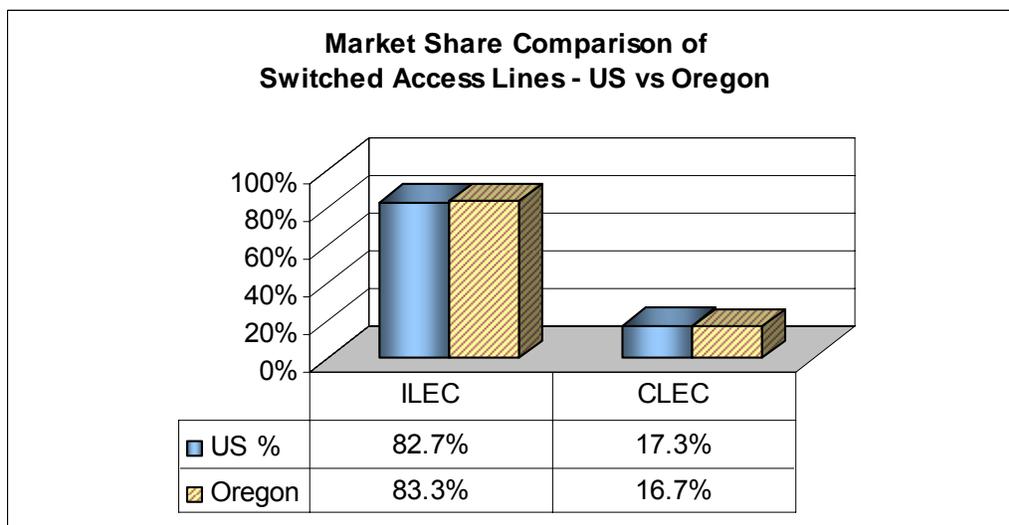
CLECs' share of business switched service revenue increased to 32.2 percent in 2006 from 8.9 percent in 1998. In the same period, the CLEC share of business lines increased to 39.4 percent from 11.1 percent. CLECs' share of business customers increased to 22.6 percent from 2.8 percent. (See Figure 11)

**Figure 11. CLECs Business Market Share for Switched Service, 1998-2006**



According to FCC News (January 31, 2007), as of June 30, 2006, US end-use customers obtained local telephone service by utilizing approximately 142.2 million ILEC switched access lines (82.7% of total LEC lines) and 29.8 million CLEC switched access lines (17.3% of total). By comparison, in Oregon, CLECs provide 16.7 percent of lines, a little less than the national average. (See Figure 12)

**Figure 12. Market Share Comparison of Switched Access Lines - US vs. Oregon**



## V. High Speed Access Services

### 1. Market Size and Share

#### A. Private Line Service

Local exchange private lines are dedicated circuits that customers use to transmit information between two or more pre-selected locations within a telephone exchange. Local private line services vary in capacity. The survey distinguished between lower capacity circuits (speeds less than 1.544 Mbps) and higher capacity circuits (speeds at 1.544 Mbps or greater).

The revenue from private line services made up 6.5 percent of total service revenues, DSL was 10 percent, and switched services provided 83.4 percent.

Thirty-seven CLECs reported they provide local exchange private line services. These CLECs share of the private line market ranged from 8.3 percent for customers to 41.8 percent for lower capacity circuits (see Table 9). The percentage depends on how market share is measured and whether the focus is on lower or higher capacity private line circuits. The survey measured CLEC market share in three ways: (1) customers, (2) circuits, and (3) revenues.

**Table 9. Local Private Line Services**

2006	All LECs	CLECs	ILECs	CLECs %
Customers	18,487	1,528	16,959	8.3%
Total Circuits	40,077	14,470	25,607	36.1%
Lower Capacity	29,408	12,297	17,111	41.8%
Higher Capacity	10,669	2,173	8,496	20.4%
Revenues Year - \$000	\$61,592	\$19,581	\$42,011	31.8%
Revenue\$ / Circuit - Year	\$1,537	\$1,353	\$1,641	

(1) The CLEC share of local private line customers<sup>5</sup> was 8.3 percent, or 1,528 customers.<sup>6</sup> The ILECs provided service to 16,959 customers, 91.7 percent of the total.

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<sup>5</sup> The survey defined private line "**customers**" as "persons or entities that had applied for, been accepted, and were receiving local exchange private line services for a price during the month. Customers include end users (i.e., retail customers) and other telecommunications carriers (i.e., wholesale customers)."

(2) The CLEC market share of all private line circuits<sup>7</sup> was 36.1 percent. The CLEC market share of lower capacity circuits was 41.8 percent, while the CLEC market share for higher capacity circuits was 20.4 percent. Total private line circuits, including lower and higher capacity circuits, numbered 40,077 in 2006.

**Table 10. Private Line Service Revenues, 2006**

2006	Total	ILECs	CLECs
Shares	100.0%	68.2%	31.8%
\$ Million/year	\$61.6	\$42.0	\$19.6

(3) The CLECs' share of total private line service revenues<sup>8</sup> was 31.8 percent (see Table 10). Total revenues from private line services were an estimated \$61.6 million annually. Of the total estimated annual revenues, ILECs received \$42 million (68.2%), and CLECs the remaining \$19.6 million (31.8%). The CLECs' share of revenues was greater than their share of customers, indicating that the CLEC are targeting and serving larger customers.

## B. DSL Service

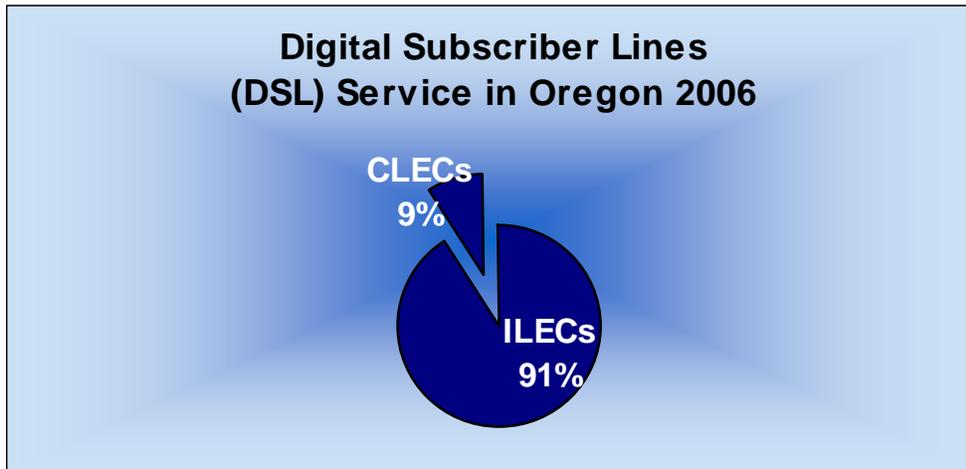
DSL is a technology that combines two way voice and data transmissions at very high speeds over normal telephone lines. Total number of DSL in Oregon in 2006 was 333,318, up 30 percent from 2005. Ninety-one percent of DSL was provided by ILECs and 9 percent was provided by CLECs (See Figure 13). Revenues from DSL were \$93.1 million in 2006.

**Figure 13. Oregon Digital Subscriber Lines (DSL)**

<sup>6</sup> Note that survey results may overstate the 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 customer.

<sup>7</sup> The survey defined "**circuits**" as circuit terminations a firm provides and bills to its customers. If a firm provides a circuit that connects two customer locations, and bills the customer for both ends of the circuit, two terminations were counted. The capacity of a circuit is determined by the capacity your firm delivers to the customer at the point of termination, even though the customer may further subdivide that capacity using its own multiplexing or other equipment.

<sup>8</sup> The survey defined private line "**revenues**" as the amount a firm billed in December 2006 for local exchange private line services, whether billed in advance or arrears. This included regulated and non-regulated, federal and state charges. Exclude taxes that your firm billed to customers."



## 2. CLEC Provisioning of Private Line Circuits

Thirty facilities-based providers supplied 13,972 (97%) of the 14,470 CLECs local exchange private line circuits identified in the survey. However, this does not mean that all of these circuits were provisioned using facilities the CLECs own and operate. Often, a facilities-based carrier owns and operates some telecommunications equipment, but also provides service by resale.

Fifteen CLECs provided private line services by reselling ILEC services. Ten CLECs provided private line service by reselling other CLEC services. Most of this resale 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 telephone service, with new ones arriving seemingly every year. The relatively narrow bandwidth of traditional modems is being replaced by much faster alternatives such as cable modems, digital subscriber lines (DSL), T-1 lines, satellites, fixed or mobile wireless, and fiber optic cable.

The percentage of Oregon consumers (residential and business) having high-speed digital access was 19.4 percent as measured by revenue. Oregon's 19.4 percent for high-speed access services consists of 16.7 percent private line service and DSL services, plus 2.7 percent cable TV network in switched services.

## VI. Market Segments by Region and Type of Service

The survey identified six geographic regions within Oregon. The regions are based on clusters of ILEC local exchange serving areas (see Figure 14). The regions are: (1) Portland Metropolitan,<sup>9</sup> (2) Willamette Valley,<sup>10</sup> (3) Southwest Interior,<sup>11</sup> (4) Coast,<sup>12</sup> (5) Central,<sup>13</sup> and (6) East.<sup>14</sup>

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<sup>9</sup> "**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, Yamhill.

<sup>10</sup> "**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, Leaburg, Lebanon, Lobster Valley, Lowell, Lyons, Marcola, McMinnville, Mill City, Monitor, Monroe, Mt. Angel, Murphy/Provolt, Oakridge, Philomath, Ripplebrook, Salem, Scio, Shedd, Sheridan, Silverton, St. Helens, Rainier, St. Paul, Stayton, Summit, Sweet Home, Triangle Lake, Veneta, Willamina.

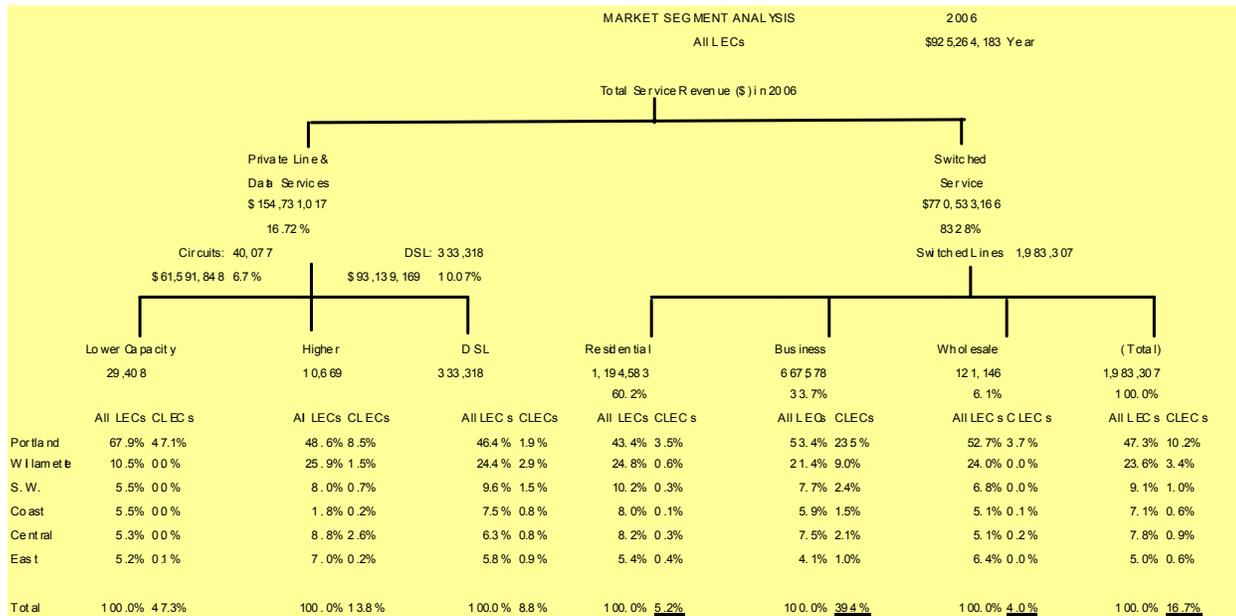
<sup>11</sup> "**Southwest Interior**" region consists of the following exchanges: Ashland, Azalea, Butte Falls, Camas Valley, Canyonville, Cave Junction, Central Point, Crater Lake, Days Creek, Diamond Lake, Elkton, Fish Lake, Glendale, Glide, Gold Hill, Grants Pass, Jacksonville, Medford, Myrtle Creek,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

<sup>12</sup> "**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, Yachats.

<sup>13</sup> "**Central**" region consists of the following exchanges: Antelope, Arlington, Bend, Bonanza, 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, Mt. Hood Meadows, Odell, Paisley, Parkdale, Paulina, Pine Grove, Prineville, Redmond, Rocky Point, Rufus, Silver Lake, Sprague River, Sisters, The Dalles, Tygh Valley, Wamic, Wasco.

<sup>14</sup> "**East**" region consists of the following exchanges: Adrian, Athena/Weston, Baker, Bates, Boardman, Burns, Cove, Dayville, Durkee, Echo, Elgin, Enterprise, Flora/Troy, Haines, Halfway, Harney, Helix, Heppner, Hereford/Unity, Hermiston, Huntington, Imbler, Lone, John Day, Jordan Valley, Joseph, 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), Wallowa.

**Figure 14. Local Exchange Carriers Market Segments and Shares**

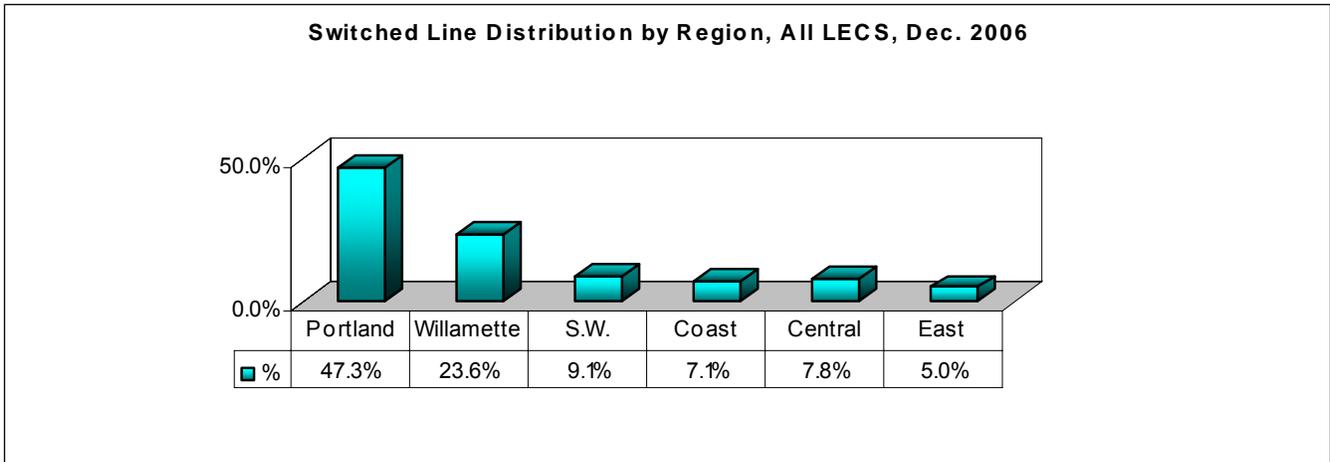


## 1. Market Segments by Regions

### A. Switched Services by Region

The survey asked each LEC to report the number of switched local exchange lines it was supplying to customers in each region. Both ILECs and CLECs reported customers in all six regions. The Portland Metropolitan Region, the most populous area in the state, continues to be the largest regional market. It accounted for 47.3 percent (see Figure 15) of all retail local exchange switched lines in the state. Second was the Willamette Valley Region, with 23.6 percent of the lines. The other four regions accounted for less than a third of the state's lines: Southwest Interior (9.1%), Central (7.8%), Coast (7.1%), and East (5%).

**Figure 15. Oregon All LECs Switched Lines by Region**

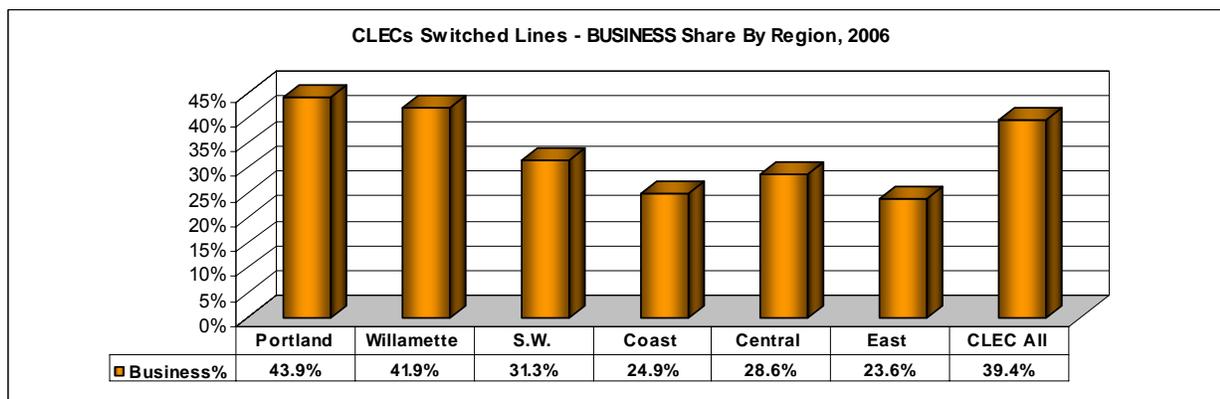


Survey responses indicate that CLECs were providing competitive local switched service in all six regions of the state. Competitive entry is highest in the Portland Metropolitan Region. Statewide, CLECs had a 16.7 percent share of switched local exchange lines. Sixty-one percent of CLEC lines are in the Portland Metropolitan Region, followed by the Willamette Valley with 20.4 percent, then Southwest Interior (5.9%), Central (5.4%), Coast (3.5%) and the East (3.3%).

For the Residential sector, CLECs had 5.2 percent of lines in the State in 2006, and 68 percent of the CLEC residential lines were in the Portland Metro Region.

In the Business sector, CLECs had 39.4 percent of lines in the State, and 59.5 percent of all CLEC business lines were in the Portland Metro Region.

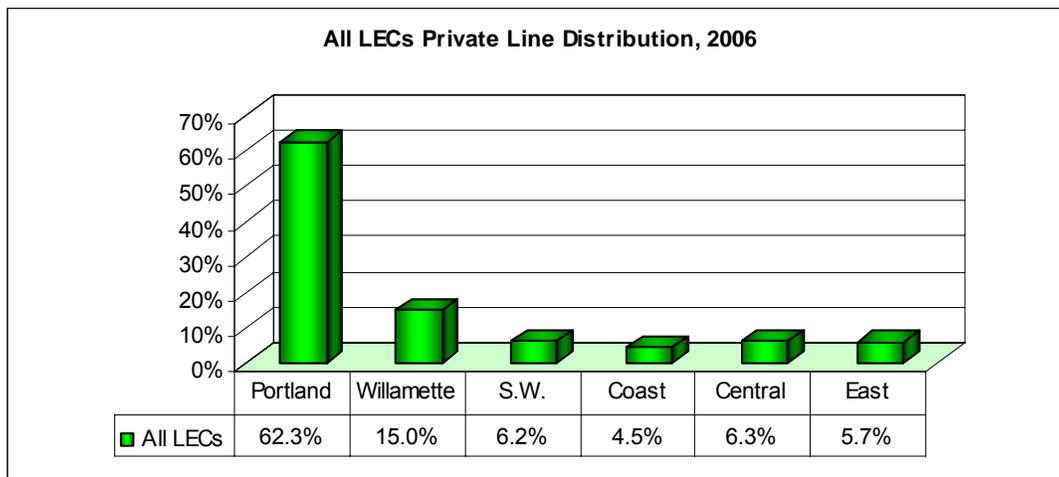
**Figure 16. CLECs Switched Lines – Business Service by Region**



**B. Private Line Service by Region**

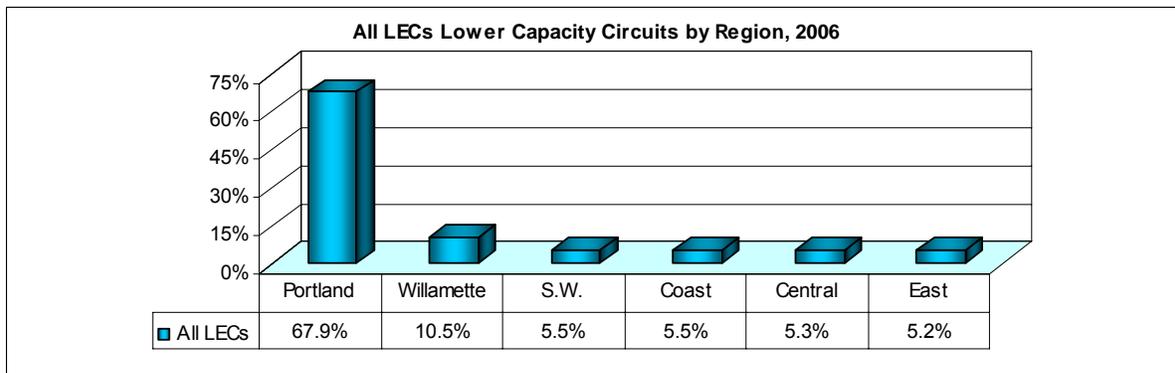
The Portland Metropolitan Region is the largest regional private line market, with 62.3 percent (see Figure 17) of all retail private line circuits in the state. The second largest was the Willamette Valley, with 15 percent of circuits. The other four regions together accounted for 22.7 percent of the state's circuits: Central (6.3%), Southwest Interior (6.2%), East (5.7%), and Coast (4.5%).

**Figure 17. Oregon Private Line Service by Region - Dec. 2006**



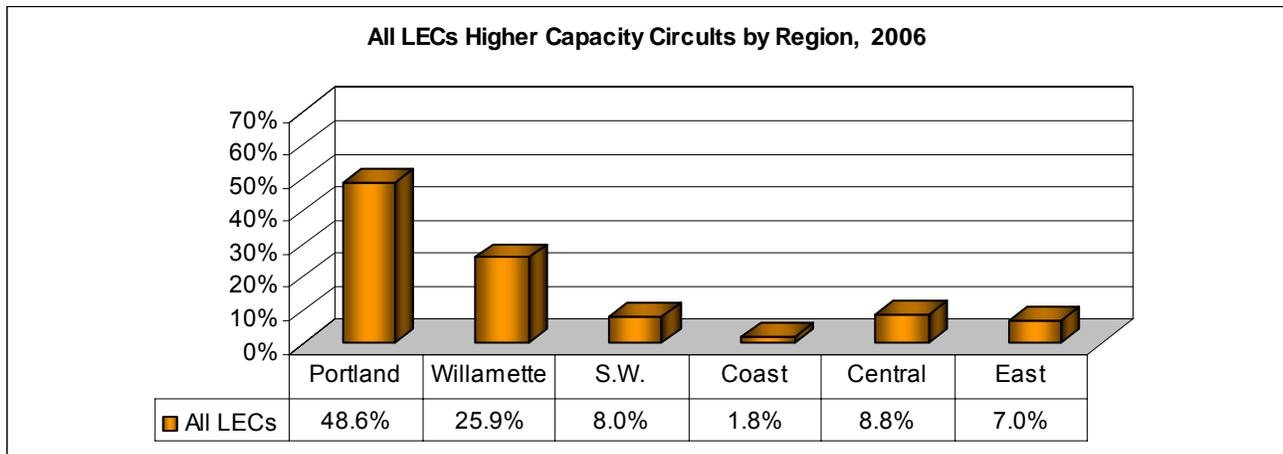
Lower Capacity Circuits: Of the state's 40,077 local exchange private line circuits, most (73.4 percent) were in the lower capacity category. The Portland Metropolitan Region was the largest market for lower capacity circuits, with 68 percent (see Figure 18) of the lower capacity circuits in the state. The second largest market was the Willamette Valley with 10.5 percent of lower capacity circuits, followed by Coast (5.5%), East (5.2%), Central (5.3%), and Southwest Interior (5.5%).

**Figure 18. Oregon Lower Capacity Circuits Distribution by Regions - Dec. 2006**



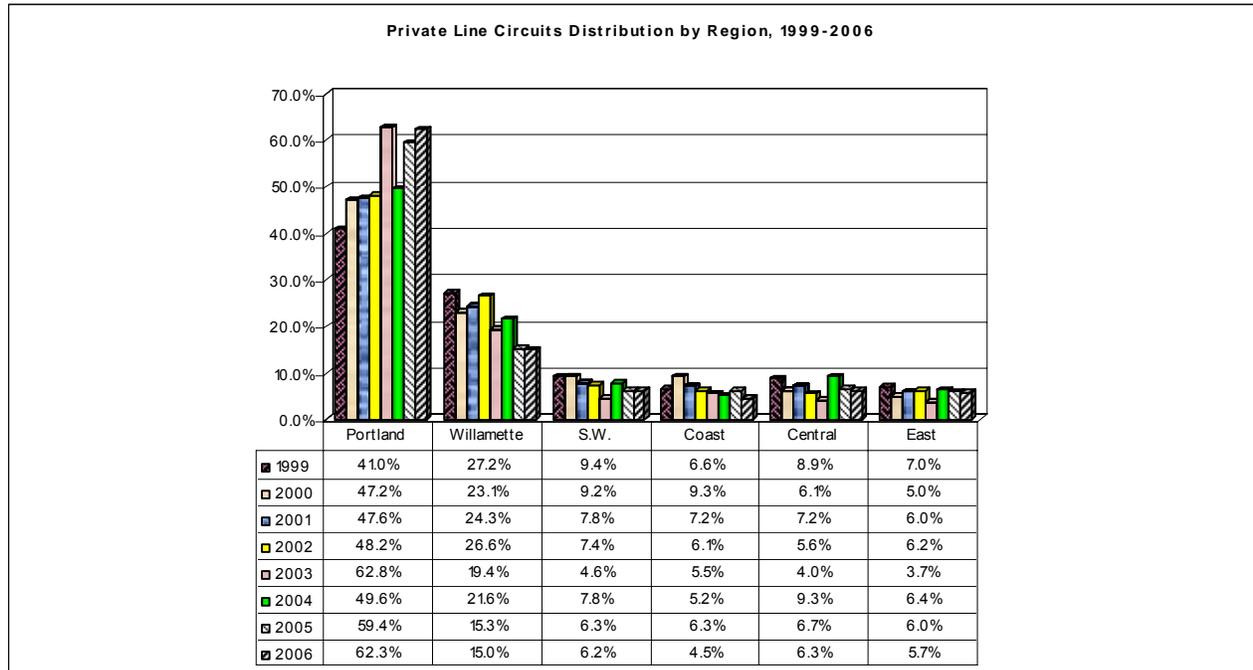
The CLECs' share of lower capacity circuits was 42 percent statewide. Higher capacity circuits accounted for 20 percent of the state's total private line circuits. In December 2006, the market for higher capacity circuits was concentrated in the Portland Metropolitan Region, with 49 percent (see Figure 19). The remaining five regions have 51 percent of higher capacity circuits.

**Figure 19. Oregon Higher Capacity Circuits Distribution by Regions - Dec. 2006**



CLECs' share of higher capacity circuits was 24.8 percent statewide. The regional distribution of private lines has not changed much over the last several years as indicated in Figure 20. Of all private line circuits, 62.3% were in the Portland Metro Region in 2006.

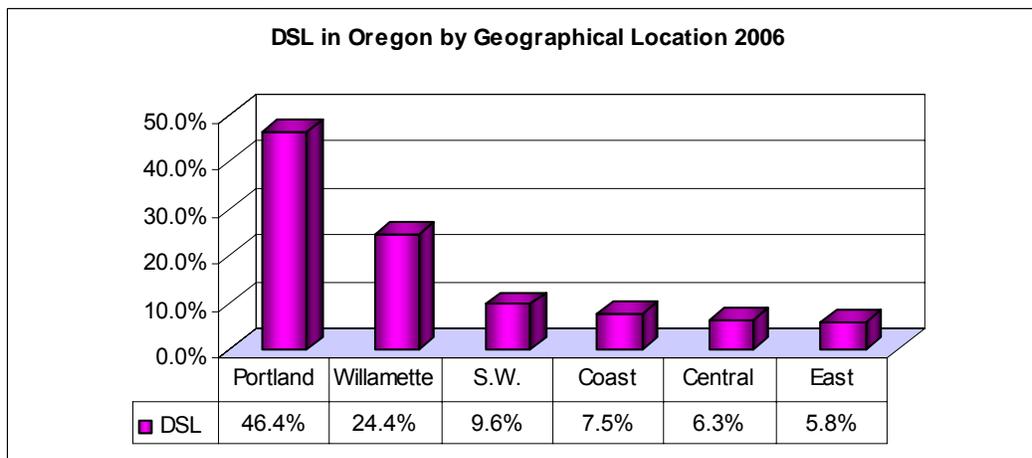
**Figure 20. Private Line Circuits Distribution, 1999 to 2006**



**C. DSL Service by Region**

During the year 2006, DSL (refers to all types of digital subscriber lines) service was provided by 333,318 lines and generated \$93.1 million in revenue. Of all DSL, 46.4 percent was in the Portland Metropolitan Region (see Figure 21), followed by Willamette Valley (24.4%), Southwest Interior (9.6%), Coast (7.5%), Central (6.3%) and East (5.8%).

**Figure 21. DSL in Oregon by Geographical Location**

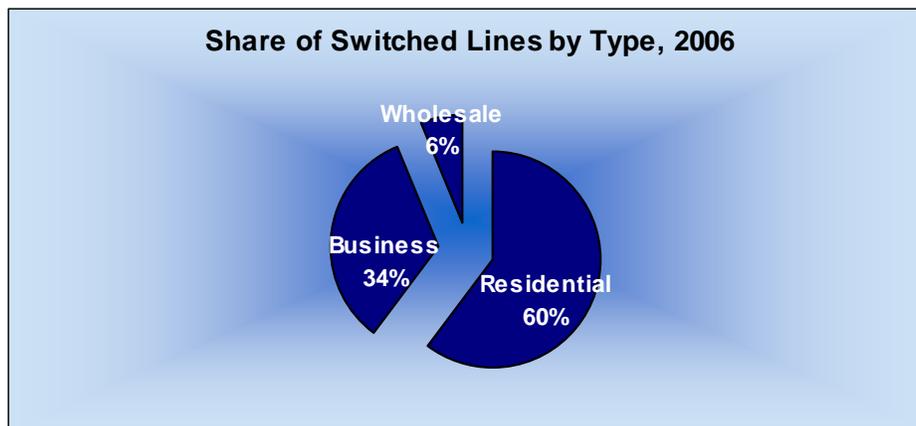


## 2. Market Segments by Type of Service

### A. Switched Services

The survey grouped customers into three sectors: business, residential, and wholesale. Sixty percent of switched service lines were in the residential sector, 34 percent were business lines, and 6 percent were wholesale (see Figure 22).

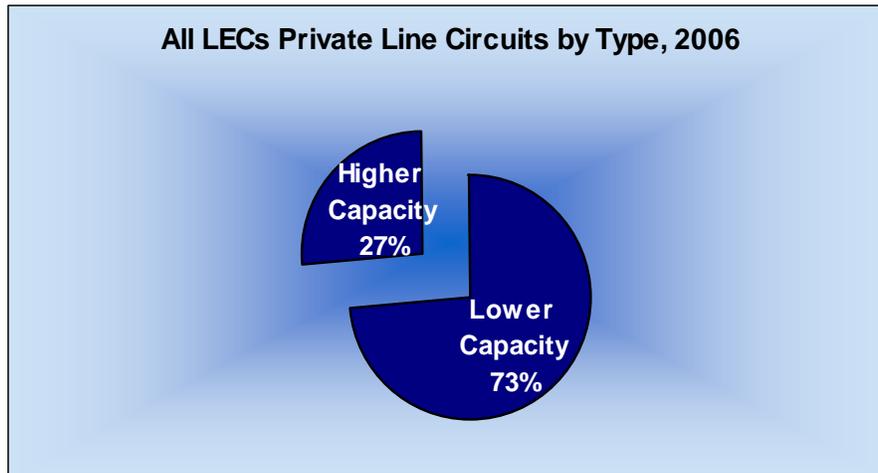
**Figure 22. Oregon Switched Service Lines by Types**



### B. Private Line

A private line is a dedicated, non-switched link from one or more customer-specified locations to one or more customer-specified locations. A circuit is a complete electrical path providing one- or two-way communication between two points comprised of associated send and receive channels. Capacity is determined by the highest data transmission rate in either direction. Figure 23 shows that 73 percent of private line circuits were lower capacity, and that 27 percent were higher capacity.

**Figure 23. Oregon Private Line Circuits by Types**



### **C. DSL**

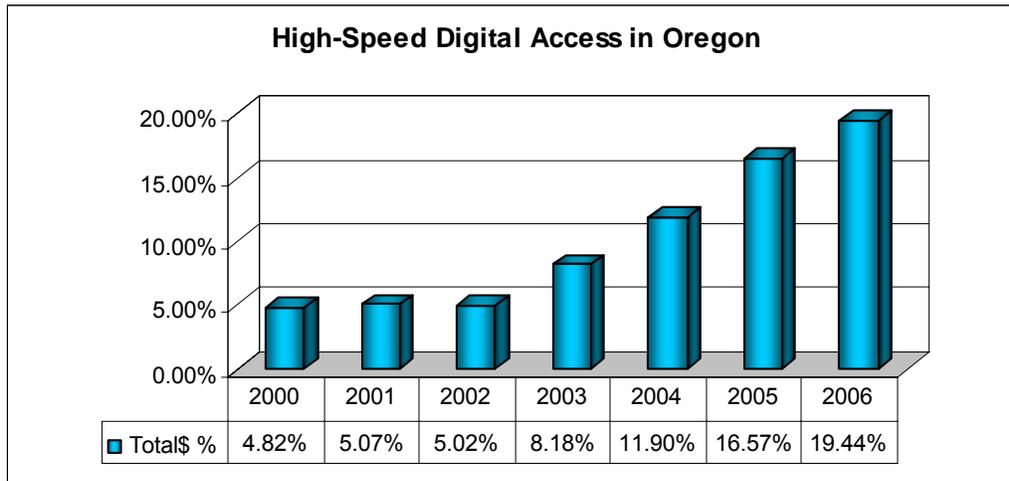
DSL service was provided on 333,318 residential and business lines and accounted for \$93.1 million of revenue. The DSL revenue per month was \$23/line.

#### **Total High-Speed Digital Access in Oregon**

High-speed digital access accounted for 19.4 percent of total LEC revenue in 2006. This was an increase from 16.6 percent in 2005. The 19.4 percent revenue figure for high-speed access services consists of 6.7 percent from private line services, 10.1 percent from DSL- Digital Subscriber Line, and 2.7 percent cable TV network in switched services.

High-speed digital access used to be a dream for most Oregonians: about 4.8 percent of Oregon consumers (residential and business) had any type of speedy Internet hookup in 2000. This was comparable to the nationwide penetration of less than 5 percent in late 2000. The market share of high-speed digital access was low because of its availability in Oregon. Six years later, the high-speed digital access penetration in Oregon increased to nearly 20 percent (see Figure 24 below).

**Figure 24. Trend of High-Speed Digital Access in Oregon**



## VII. Business Plans and Competition

### 1. Capital Expenditures

Capital Expenditure is the money spent to acquire or upgrade physical assets such as switches and fiber optic cable. The survey asked for information on investment in capital assets (plant and equipment). Capital expenditures for local exchange service in Oregon were estimated at \$171 million, which was 18.5 percent of total revenue (\$925 million). (See Table 11)

Of the 226 certified CLECs, 153 reported some level of capital expenditures in 2006, with 74 percent (134 of 181) having made capital outlays of less than \$10,000. Total CLEC capital expenditures were \$52 million. CLECs' capital investment represented 28.6 percent of CLECs' revenue (\$183 million).

All 34 certified ILECs reported having made some capital expenditures in 2006. Total ILEC capital expenditures were \$119 million. ILECs' capital investment represented 16 percent of ILECs' revenue (\$742 million).

**Table 11. Capital Expenditures for Local Exchange Service In 2006**

Capital Expenditures	ILECs	CLECs	All LECs
Less than \$10,000	0	134	134
\$10,000-50,000	4	10	14
\$50,001-100,000	4	7	11
\$100,001-1,000,000	10	20	30
\$1,000,001-10,000,000	12	10	22
More than \$10,000,000	4	0	4
<b># of LECs had Capital Expenses</b>	<b>34</b>	<b>181</b>	<b>215</b>
<b>Estimated Expenses (\$million)</b>	<b>\$119</b>	<b>\$52</b>	<b>\$171</b>
<b>Revenues (\$million)</b>	<b>\$742</b>	<b>\$183</b>	<b>\$925</b>
<b>Investment / Revenue (%)</b>	<b>16.0%</b>	<b>28.6%</b>	<b>18.5%</b>

## 2. Competition for Residential Market

The survey asked all local exchange carriers, "What do you believe are the reasons that you do not have a bigger share of Oregon's residential market (check all that apply)?" Out of 34 ILECs, 16 companies noted that cell phone usage has decreased the demand for wireline and second-line services (see Table 12), and 13 ILECs said they were restrained by geographical location, which made residential competition difficult or expensive.

Out of 153 responding CLECs, 38 said they could not compete on price (compared to 29 the previous year), 28 said they could not compete on facilities, 24 said that the incumbent local exchange carrier has name familiarity, and 24 said that they did not have enough capacity. Since CLECs' operations focus principally on business customers, only 18 companies responded that cell phone usage has decreased the demand for residential wireline and second-line services, and 21 CLECs considered that geographic location made residential competition difficult or expensive. The percentage of responding CLECs identifying each of the above reasons for not having a higher share of the residential market has remained about the same over the five-year period that the question has been asked.

**Table 12. Residential Market Competition**

Reasons	# of ILECs	# of CLECs
Cannot compete on price	3	38
Cannot compete on facilities	0	28
ILEC has name familiarity	0	24
Do not have enough capacity	0	24
Cell phone decreased the wireline demand	16	18
Hard to compete due to location	13	21
Other (explain):	14	95

Of the 95 CLECs who checked the option "other," most focused their activity on business customers or did not provide residential local exchange service in 2006. However, some of these 95 CLECs who checked "other," provided reasons why they did not have a bigger share of Oregon's residential market. The respondents' comments were as follows:

- Do not compete in residential market.
- In July 2004, the Company announced that as a result of recent changes in regulatory policy governing local telephone service, the Company will no longer be competing for residential local and standalone long distance (LD) customers.
- We could not sell a \$13.80 residential line in Rate Group 2 when it costs us \$30.10 to get the line to the house from Qwest.
- Ceased provision of local services because UNE-P price increases adversely affected our ability to competitively price our offerings.
- Does not provide residential local exchange service because of the "Complex Franchise Requirements."

## **VIII. Conclusion**

In 2006 Oregon's local telecommunications market was a \$925 million industry, comprised of 1.98 million switched lines, 40,077 private line circuits and 333,318 DSL. Industry wide revenues increased \$12.8 million from 2005. However, the number of switched lines served is now lower than when this survey was first taken in 1998, reflecting the competitive impact from the cellular phone industry.

The local telecommunications markets remain dominated by the incumbent providers, with competitors accounting for 16.7 percent of local exchange switched access lines. CLECs' share of exchange lines in the residential market was 5.2 percent in 2006. There does not appear to be sufficient incentives for CLECs to compete with ILECs on a broad scale in the local residential market. CLECs had captured 39.4 percent (up from 37% the year before) of the business lines by the end of 2006, indicating the larger margins available in that market sector.

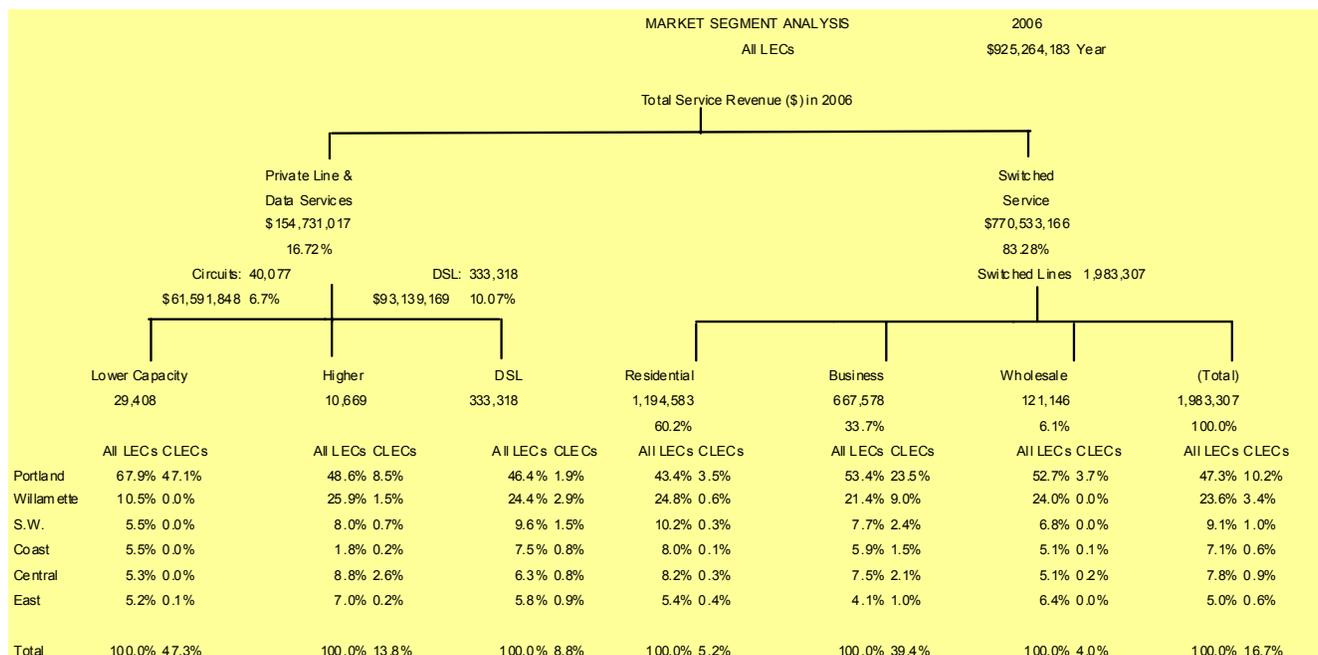
High-speed digital access accounted for 19.4 percent of total LEC revenue in 2006. This was an increase from 16.6 percent in 2005. The 19.4 percent revenue figure for high-speed access services consists of 6.7 percent from private line services, 10.1 percent from DSL- Digital Subscriber Line, and 2.7 percent cable TV network in switched services.

Capital expenditures in support of local exchange service in Oregon in 2006 were estimated at \$171 million, which was 18.5 percent of total revenue (\$925 million). Capital investment by ILECs represented 16 percent of revenue, while CLECs spent 28.6 percent of revenue on capital investment.

In the residential local exchange market, 38 CLECs said they could not compete with the ILECs on price, 28 thought they could not compete on facilities, 24 believed that the incumbent carrier's name familiarity was a barrier, 24 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 21 considered that geographic location made residential competition difficult or expensive.

Out of 34 ILECs, 16 noted that increased cell phone usage has decreased the demand for wireline and second-line services, and 13 ILECs were restrained by the geographical location, which made residential competition difficult or expensive.

**Figure 14. Local Exchange Carriers Market Segments and Shares**



While the CLECs had a small percentage of the overall market, they achieved a significant presence in specific market segments. CLECs provided 39.4 percent of switched business lines. The predominant form of CLEC competitive entry was resale. Highest CLEC market concentration as of December 2006 was in the Portland Metropolitan Region, where CLECs provide 44 percent of the business lines.

While CLECs still have a small share of the Residential market at 5.2 percent. The bumpy data in 2005 (7.4% residential lines) was the result of the merger between AT&T Broadband and Comcast Corporation. CLEC residential lines were increased from 0.7 percent in 1998 to 5.2 percent in 2006.

Finally, revenues from DSL service increased by 20 percent in 2006. The number of DSL was increased by 29.7 percent.