

LOCAL TELECOMMUNICATIONS  
COMPETITION SURVEY

YEAR 2002 REPORT

Economic Research and  
Financial Analysis Division

Public Utility Commission of Oregon

December 29, 2002

## EXECUTIVE SUMMARY

In January 2002, the staff of the Public Utility Commission of Oregon sent a survey to the 250 certified local exchange carriers (LEC) 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 during December 2001. Responses were received from all 34\* ILECs and 167 out of 216 CLECs, for a total response rate of 80%.

### HIGHLIGHTS

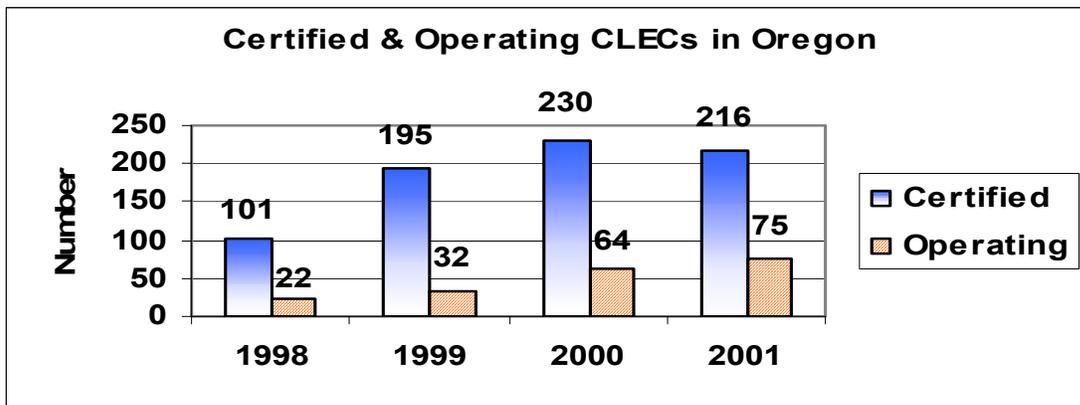
Total Oregon Local Exchange Service Revenue 2001:	\$888 million
ILEC Revenue - \$Millions / Share:	\$747 / 84%
CLEC Revenue - \$Millions / Share:	\$141 / 16%
Total Switched Lines at Year-end 2001:	2,458,630
ILEC Switched Lines / Market Share:	2,238,640 / 91%
CLEC Switched Lines / Market Share:	219,990 / 9%
Total Residential Switched Lines at Year-end 2001:	1,520,936
ILEC Residential Switched Lines / Market Share:	1,489,816 / 98%
CLEC Residential Switched Line / Market Share:	31,120/ 2%
Total Business Switched Lines at Year-end 2001:	871,756
ILEC Business Switched Lines / Market Share:	682,890 / 78%
CLEC Business Switched Line / Market Share:	188,866 / 22%
Change in Total Switched Lines / Growth Rate:	47,458 (+2%)
Change in ILEC Switched Lines / Growth Rate:	-18,954 (-1%)

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Change in CLEC Switched Lines / Growth Rate:	66,412 (+43%)
CLECs Having Certificates:	216
CLECs Doing Business / % of Total CLECs:	75 / 35%
Total Number of Private Line Circuits:	54,730
Lower Capacity Circuits / % of Total:	45,078 / 82%
Higher Capacity Circuits / % of Total:	9,652 / 18%

The number of competitive local exchange providers continues to grow in Oregon. In the last four years, the number of certified CLECs increased from 101 to 216, and the number of CLECs actually providing services in Oregon increased from 22 to 75.

**CLEC Certificate 1998 - 2001**



According to the survey responses, competitive entry in Oregon's telecommunications market is still small, especially in the residential sector. As of December 2001, 75 CLECs out of 216 (35%, up from 28% in 2000) reported that they were in the business of providing local exchange services. However, using a widely recognized measure of market share, percentage of local switched telephone lines, CLEC market share was 9% (up from 6% in 2000). In year 2001, CLECs had a 2% (same as the

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\* The Survey Report counts CenturyTel of Oregon, Inc. and CentureyTel of Eastern Oregon, Inc. as 2 utilities

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percentage in 2000) share of the residential market. Most competitive entry was in the business sector. CLECs were supplying 22% (up from 14% in 2000) of business customers' switched local exchange lines statewide.

Growth in the number of total Oregon LEC switched local exchange lines was 2%, from 2.41 million in 2000 to 2.46 million in 2001. The following table summarizes the switched lines serviced in Oregon.

**All LECs Switched Services: Lines (1,000) and Shares (%)**

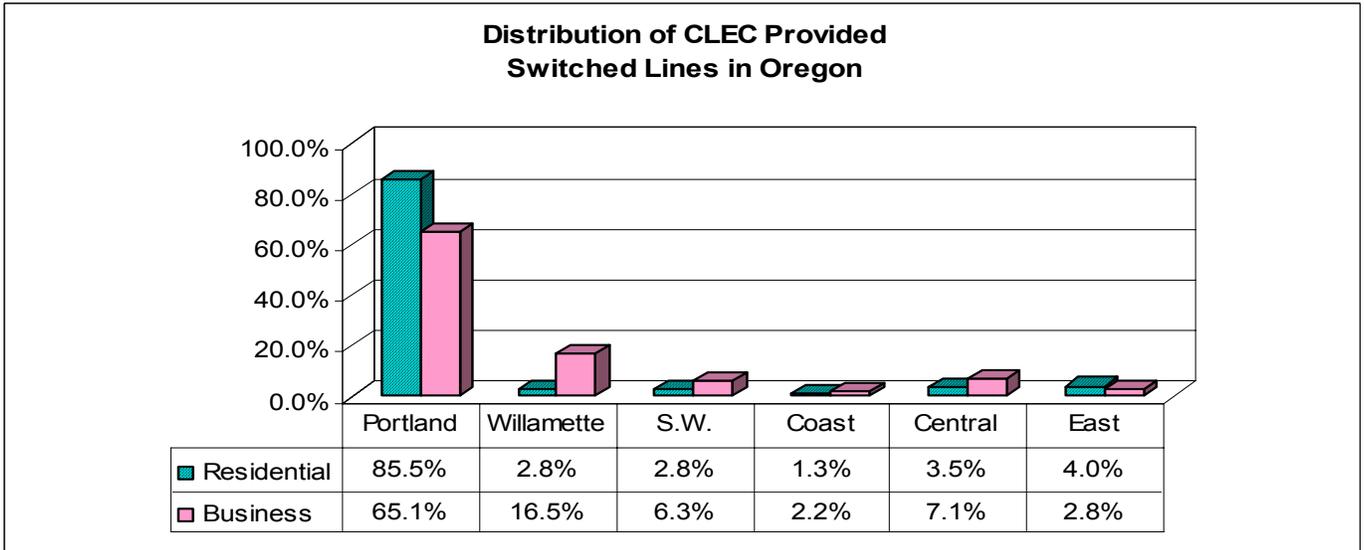
<b>2001</b>	<b>Total</b>	<b>Residential</b>	<b>Business</b>
<b>ILECs</b>	<b>2,239</b>	<b>1,490</b>	<b>683</b>
<b>CLECs</b>	<b>220</b>	<b>31</b>	<b>189</b>
<b>All-LECs</b>	<b>2,459</b>	<b>1,521</b>	<b>872</b>

<b>ILECs</b>	<b>91.1%</b>	<b>98.0%</b>	<b>78.3%</b>
<b>CLECs</b>	<b>8.9%</b>	<b>2.0%</b>	<b>21.7%</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, the Willamette Valley, Central, and Southwest, CLECs were providing between 17% and 26% of business customers' switched local exchange lines. While on the Coast and in Eastern Oregon CLECs were providing 9% and 15% of switched lines to business customers, respectively.

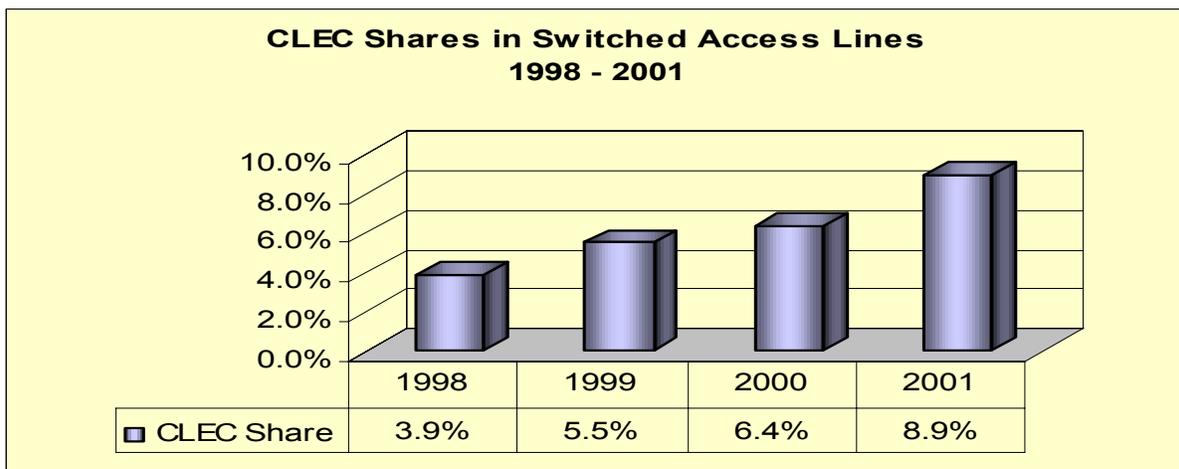
Of 2.5 million switched access lines served by all local exchange carriers, 62% were residential lines; CLECs served 2% out of the 62%, approximately the same as the prior year. 46% of all residential lines were in the Portland area. CLECs served 4% of residential lines in the Portland area, but less than 0.1% elsewhere in the state. The following chart illustrates the distribution of CLEC provided lines in Oregon.

### Regional Distribution of Access Lines Provided by CLECs



65% of all business lines served by CLECs and 86% of all residential lines served by CLECs were in the Portland Metropolitan area. CLEC switched service revenues were \$135 million in 2001, up from \$86 million in 2000.

### Growth of Competition in Oregon 1998 – 2001



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As of December 2001, CLECs reported 219,990 switched lines in service statewide, as compared to 153,578 in 2000. This represents a 43% increase. CLECs had 9% of the market at the end of 2001, up from 6% at the end of 2000. By comparison, total ILEC lines decreased by 1% during 2001, from 2,257,594 to 2,238,640 lines. In 2001, the number of switched access lines did not change much, indicating that the size of the market did not change in Oregon, while the share served by competitive providers has increased somewhat.

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## 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 2002, the Commission staff sent a survey form to all 250 carriers that the Commission had certified to provide local services in Oregon as of December 2001. Thirty-four of the 250 certified local exchange carriers (LECs) are incumbent local exchange carriers (ILECs), and 216 are competitive local exchange carriers (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 during December 2001.

All 34 ILECs responded to the survey. 167 out of 216 (77.3%) competitive providers responded. The overall response rate among all LECs was 80.4% (Table 1). 43.6% (37% last year) of all certified carriers were actually providing services in December 2001 (100% of ILECs and 34.7% of CLECs). 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**

Dec. 2001 Data	Survey Form		
	Sent	Responded	Response Rate
Total LECs	250	201	80.4%
ILECs	34	34	100.0%
CLECs	216	167	77.3%

	Service Provided in December 2001		
	Survey Form Sent	Service Provided	Operated Rate
Total LECs	250	109	43.6%
ILECs	34	34	100.0%
CLECs	216	75	34.7%

### III. Service Types

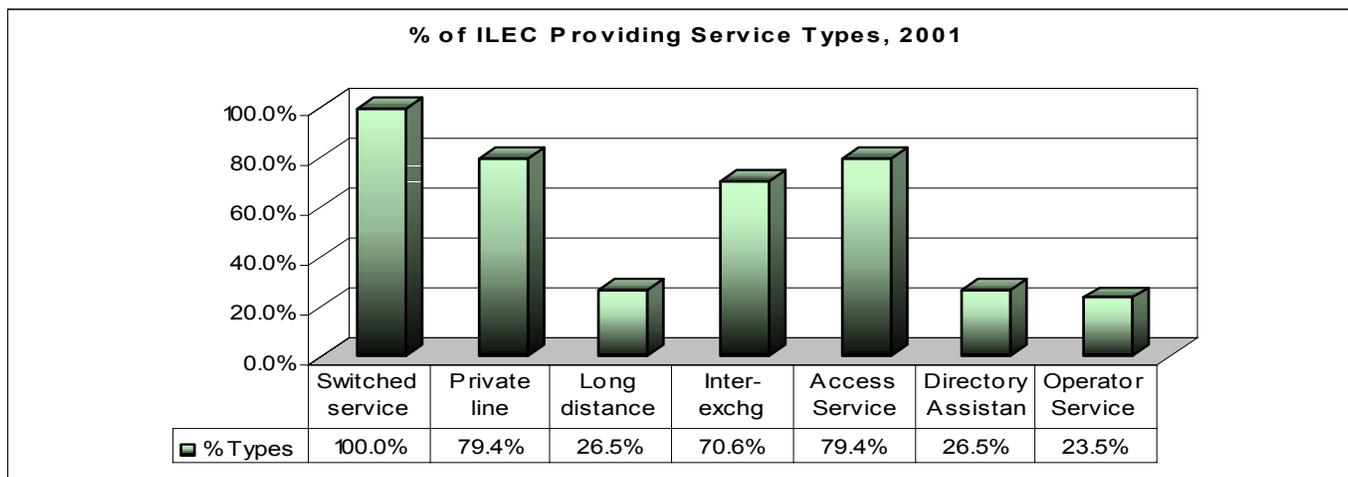
#### 1. ILEC Service Types

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 are shown in Table 2 and Figure 1.

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

Service Types	Number of Certified ILECs Providing Service	Services Provided/ Total ILECs
Local Exchange Switched Service	34	100.0%
Local Exchange Private Line Service:	27	79.4%
Lower Capacity	26	76.5%
Higher Capacity	14	41.2%
Long Distance Service	9	26.5%
Inter-exchange Private Line Service:	24	70.6%
Lower Capacity	24	70.6%
Higher Capacity	21	61.8%
Access Service	27	79.4%
Operator Service	8	23.5%
Directory Assistance Service	9	26.5%

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



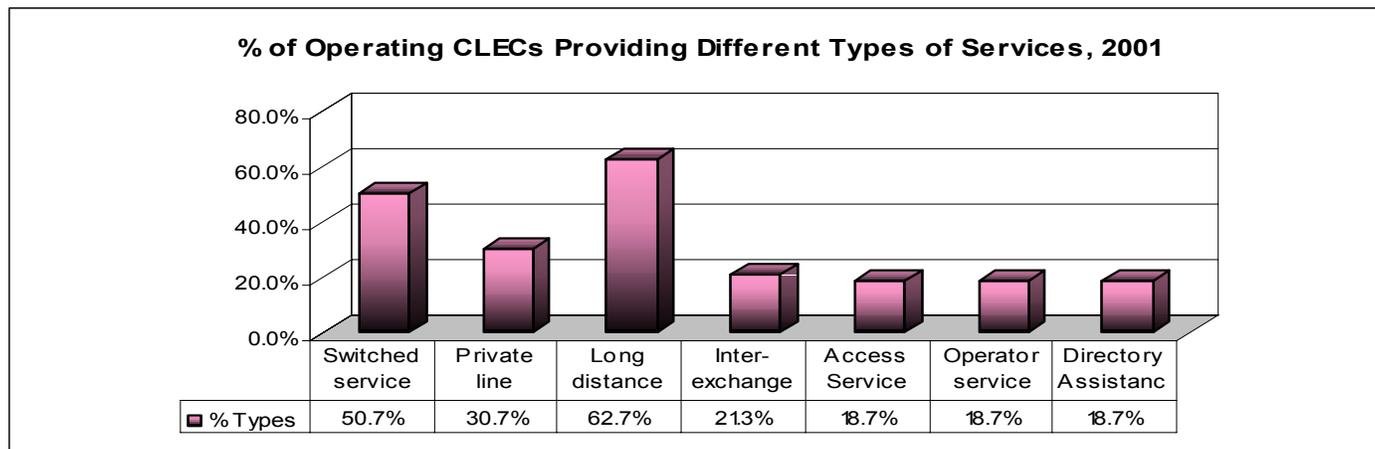
## 2. CLEC Service Types

Of the 216 certified CLECs, 75 (34.9%) were providing some kind of telecommunications service in Oregon in December 2001 (up from 27.8% in 2000). We assume that only those CLECs that responded to the survey were providing services in Oregon. Of the 75 CLECs that were providing services, 38 were providing local exchange service (up from 35 in 2000). 37 CLECs were providing long distance service (up from 35 in 2000), and 16 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 Service Types by Operating CLECs
Local Exchange Switched Service	38	50.7%
Local Exchange Private Line Service:	23	30.7%
Lower Capacity	15	20.0%
Higher Capacity	18	24.0%
Long Distance Service	37	49.3%
Inter-exchange Private Line Service:	16	21.3%
Lower Capacity	11	14.7%
Higher Capacity	13	17.3%
Access Service	14	18.7%
Operator Service	14	18.7%
Directory Assistance Service	14	18.7%

**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 2001, there were 38 CLECs competing in the local exchange switched services market. The CLECs as a group had a market share ranging between 3.3% and 15.8%, depending on how market share is measured. For this report, market share is measured in three ways: (1) customers, (2) lines, and (3) revenues.

**Table 4. Oregon Switched Service Market Shares – 2001**

	Customer	Lines	Revenue-\$Millions
<b>ILEC</b>	<b>1,570,268</b>	<b>2,238,640</b>	<b>722.1</b>
<b>CLEC</b>	<b>53,602</b>	<b>219,991</b>	<b>135.4</b>
<b>Total</b>	<b>1,623,870</b>	<b>2,458,631</b>	<b>857.5</b>
%	Customer	Lines	Revenue
<b>ILEC</b>	<b>96.7%</b>	<b>91.1%</b>	<b>84.2%</b>
<b>CLEC</b>	<b>3.3%</b>	<b>8.9%</b>	<b>15.8%</b>
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

(1) The CLEC share of retail customers<sup>1</sup> was 3.3%. 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 1,623,870 Oregon customers. ILECs served 1,570,268 (96.7%) of the total, while 53,602 (3.3%) customers were served by 38 CLECs (Table 3). While still a small percentage of the total, CLEC switched access customers increased by 38% during 2001, from 38,723 to 53,602.

(2) The CLEC share of retail lines<sup>2</sup> was 8.9% in 2001. All Oregon LECs were supplying 2,458,631 local switched telephone lines to retail customers. Of that total, the

<sup>1</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)."

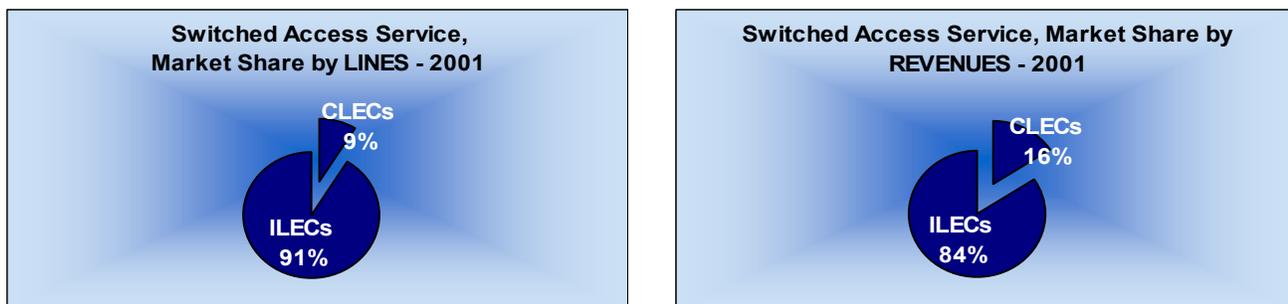
<sup>2</sup> The survey defined "**local exchange lines**" as "voice level transmission paths (64kbps digital or <4kHz analog) that link an end user location with the switching center that provides dial tone. For ISDN, each B channel was counted as one line. For Centrex, each station line was counted as one line."

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ILECs were supplying 91.1% (2,238,640) of all lines (Figure 3), leaving the CLECs with the remaining 219,991 (8.9%). The CLECs were supplying an average of 4 lines per customer, while ILECs were supplying an average of 1.4 lines per customer. Total CLEC switched access lines increased by 43% during the year of 2001, from 153,578 to 219,991 lines.

(3) The CLEC share of retail revenues<sup>3</sup> was 16% (Figure 3) up from 9.9% in 2000. In 2001, retail revenues from local exchange switched services in Oregon were an estimated \$888 million annually<sup>4</sup> (down from \$905 million in 2000). Of the total, ILECs received \$722.5 million (down from \$783.9 million in 2000 and \$885.7 million in 1999) or 84% of total revenue, and CLECs, the remaining \$135.4 million (up 58% from \$85.7 million in 2000), 16% of total switched revenue.

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



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. The CLECs' average per customer revenue was \$2,525, compared to \$460 for ILECs. (see Table 5).

<sup>3</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."

<sup>4</sup> Annual revenues are calculated as revenues reported for December 2001 times twelve.

**Table 5. Average Switched Services Lines and Revenues - 2001**

<b>2001</b>	<b>CLECs</b>	<b>ILECs</b>
<b>Lines / Customer</b>	<b>4.1</b>	<b>1.4</b>
<b>Business Revenue / Line / Year</b>	<b>\$609.6</b>	<b>\$422.3</b>
<b>Revenue / Customer / Year</b>	<b>\$2,525.5</b>	<b>\$460.1</b>
<b>Revenue / Line / Year</b>	<b>\$615.4</b>	<b>\$322.8</b>

The 34 ILECs providing local exchange switched services had 96.7% of customers, (down from 98% in 2000), 91.1% of switched access lines (down from 94% in 2000) and 84.2% of switched service revenues (down from 90% in 2000) (see Table 6). Within the ILECs, the Big Four (CENTURYTEL, QWEST, SPRINT and VERIZON) incumbent operators had the major market share of local exchange switched service in Oregon. In 2001, the Big Four had 89.9% of total customers (down from 91.1% in 2000), 85.1% of total exchange lines (down from 87.5% in 2000), and 79.1% of total switched service revenues (down from 85.7% in 2000).

**Table 6. Market Shares of ILECs, CLECs and Big 4 ILECs, 2001**

<b>% Market Shares</b>			
<b>CUSTOMERS</b>	<b>ILECs/Total</b>	<b>CLECs/Total</b>	<b>Big-4 ILECs/Total</b>
<b>Residential</b>	<b>98.0%</b>	<b>2.0%</b>	<b>91.2%</b>
<b>Business</b>	<b>90.0%</b>	<b>10.0%</b>	<b>83.0%</b>
<b>Carriers</b>	<b>99.9%</b>	<b>0.1%</b>	<b>99.8%</b>
<b>Total Customers</b>	<b>96.7%</b>	<b>3.3%</b>	<b>89.9%</b>
<b>EXCHANGE LINES</b>	<b>ILECs/Total</b>	<b>CLECs/Total</b>	<b>Big-4 ILECs/Total</b>
<b>Residential</b>	<b>98.0%</b>	<b>2.0%</b>	<b>90.7%</b>
<b>Business</b>	<b>78.3%</b>	<b>21.7%</b>	<b>74.3%</b>
<b>Carriers</b>	<b>100.0%</b>	<b>0.0%</b>	<b>100.0%</b>
<b>Total Lines</b>	<b>91.1%</b>	<b>8.9%</b>	<b>85.1%</b>
<b>REVENUES</b>	<b>ILECs/Total</b>	<b>CLECs/Total</b>	<b>Big-4 ILECs/Total</b>
<b>Residential</b>	<b>95.4%</b>	<b>4.6%</b>	<b>89.0%</b>
<b>Business</b>	<b>71.5%</b>	<b>28.5%</b>	<b>68.5%</b>
<b>Carriers</b>	<b>99.2%</b>	<b>0.8%</b>	<b>76.6%</b>
<b>Total Revenues</b>	<b>84.2%</b>	<b>15.8%</b>	<b>79.1%</b>

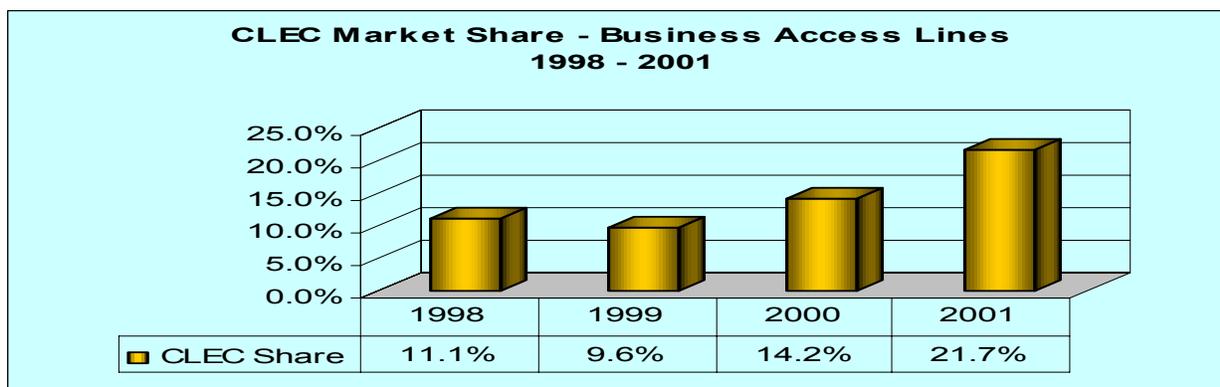
**A. Business Sector Market Shares**

CLECs were supplying service to 10% of business customers, compared to 3.3% of all customers. CLECs supplied 21.7% (14.2% in 2000) of business switched access lines (see Figure 4). This is substantially greater than the 8.9% CLEC share of Oregon all lines. Similarly, CLECs had a 28.5% (17.9% in 2000) share of business local exchange switched service revenues, compared to a 15.8% (9.9% in 2000) share of all revenues.

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



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



The CLEC share of business revenues was higher than their share of business lines. For CLECs, in 2001, the annual revenue per business line was \$609 (\$51/mo). For ILECs, the average was \$422 (\$35/mo) per line (see Table 5). CLECs' market share of the business access lines has increased steadily during the past three years; the share was a 9.6% in 1999, a 14.2% in 2000, and a 21.7% in 2001 (see Figure 5).

**B. Residential Market Shares**

**Table 7. Switched Service RESIDENTIAL Market Shares, 2001**

<b>Residential</b>	<b>Customers</b>	<b>Lines</b>	<b>Annual Revenues - Million \$</b>
<b>ILECs</b>	<b>1,325,569</b>	<b>1,489,816</b>	<b>418.9</b>
<b>CLECs</b>	<b>26,881</b>	<b>31,120</b>	<b>20.1</b>
<b>Total</b>	<b>1,352,450</b>	<b>1,520,936</b>	<b>439.0</b>
<b>ILECs/Total</b>	<b>98.0%</b>	<b>98.0%</b>	<b>95.4%</b>
<b>CLECs/Total</b>	<b>2.0%</b>	<b>2.0%</b>	<b>4.6%</b>

(1) The CLEC share of residential customers was 2.0% in 2001 (see Table 7), compared to 2.2% a year earlier. According to the survey, Oregon LECs were providing local exchange switched services to 1,352,450 Oregon residential customers. ILECs served 1,325,569 (98%) of the total, while 26,881 customers (2%) were served by CLECs.

(2) The CLEC share of residential exchange lines was 2% in 2001, compared to 2.4% a year earlier. Oregon LECs were supplying a total of 1,520,936 local switched telephone lines to residential customers. ILECs were supplying 98% or 1,516,239 lines, and the CLECs provided 31,120 residential lines.

At today's prices for basic residential services, competitors do not have an incentive to compete for residential customers currently served by the ILECs. In 2001, ILECs controlled 98% residential market shares, compared to 97.6% a year earlier. Big-4 ILECs controlled 91% of residential market lines, compared to 92.7% a year earlier. Most consumers still have only one option for local phone service. 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.

(3) Overall residential revenues from local exchange switched services in Oregon in 2001 were an estimated \$439 million annually, it was about the same level, \$444 million, in 2000. Residential monthly average revenue was \$53.85 per line for CLECs, \$23.43 per line for ILECs, compared to \$49.35 for CLECs and \$23.84 for ILECs a year earlier.

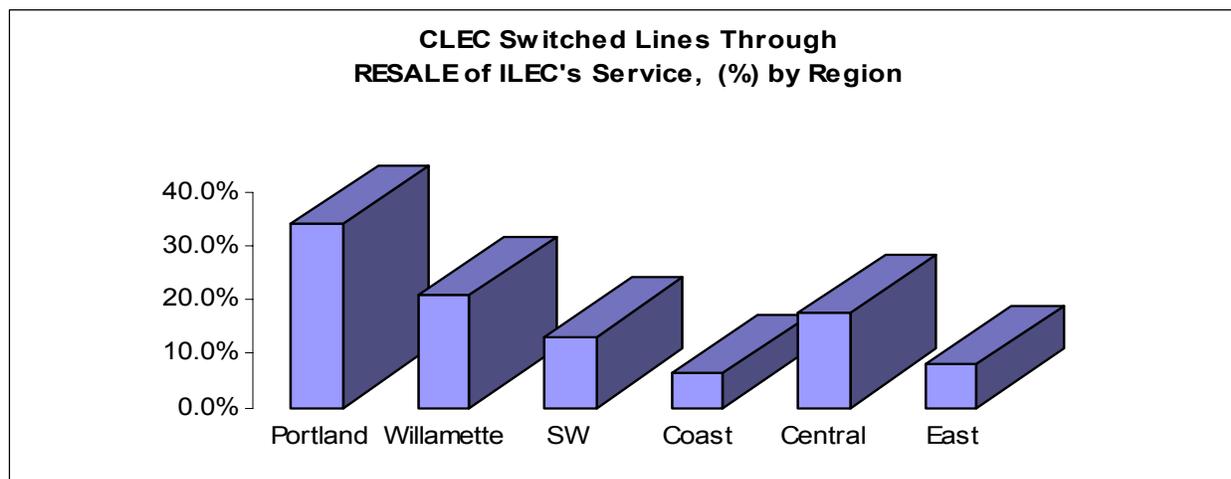
## 2. CLEC Provisioning

In December 2001, 23 of the 38 CLECs (60%) providing local switched services were ILEC-service-resellers, compared to 77% a year earlier. A CLEC reseller buys complete retail services from ILECs, and then resells those services under the CLEC's own name to consumers. 34% (13/38) of CLEC switched access services are facility based providers. The facility based CLECs provided 108,862 switched access lines, which was 49.5% of total CLEC lines, and 4.4% of all LECs' switched access lines.

13 CLECs reported providing switched access lines or private line services by purchasing unbundled network elements (UNEs) from ILECs. 53.6% (117,866 over 219,991) of CLEC switched access lines (4.8% of all LECs' switched lines) were provided by means of UNE, leased from Incumbent local exchange carriers. Two CLECs leased unbundled network element platform (UNE-P) - a combination of UNEs. The UNE-P number was very limited, less than 10,000 lines in December 2001.

All 38 CLECs providing local exchange switched service do so, at least in part, by reselling the exchange lines of incumbent carriers. Over 34% of resold ILEC service occurred in the Portland area. 21% of resold CLEC service occurred in the Willamette Area.

**Figure 6. Market Concentration - CLEC Resell ILECs' Lines in 2001**



59% of the CLECs paid wholesale prices to ILECs, 18% paid full retail prices, and 23% paid both wholesale and retail prices.

### 3. Market Trends in Switched Access Services

CLECs reported 219,991 (or 9.0% of all LECs) of 2,458,631 statewide local switched access lines in service at the end of 2001, compared to 153,578 in December 2000. This represents a 43% growth in CLEC market size during the year of 2001. By comparison, ILEC lines decreased by 0.8% during 2001, from 2,257,594 to 2,238,640.

**Figure 7. Change of ILEC Market Shares in Switched Services, 1998 - 2001**

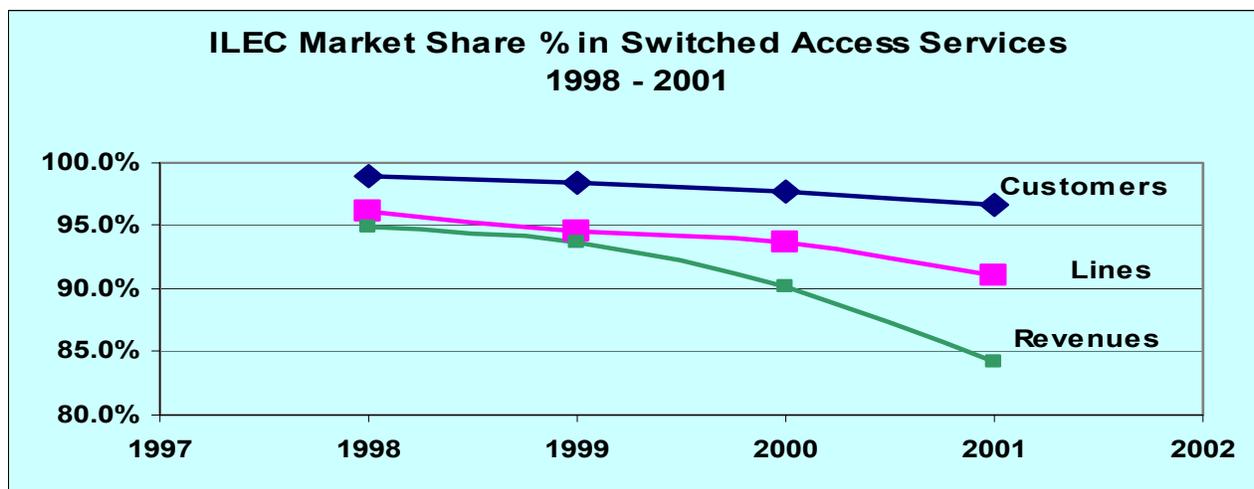


Figure 7 shows the market share for ILEC switched service has a downward trend. Number of customers, number of switched lines, and total revenue have all gone down during the past four years.

In contrast, CLEC market share has been increasing. Driven by success in the business sector, the number of lines served by CLECs has increased from 85,146 in 1998 to 219,991 in 2001. (See Table 8 and Figure 8)

**Table 8. Trends in Switched Access Lines, 1998 – 2001**

Date	CLECs	ILECs	Total	CLEC Share
1998	85,146	2,116,322	2,201,468	3.9%
1999	121,277	2,078,678	2,199,955	5.5%
2000	153,578	2,257,594	2,411,172	6.4%
2001	219,991	2,238,640	2,458,631	8.9%

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

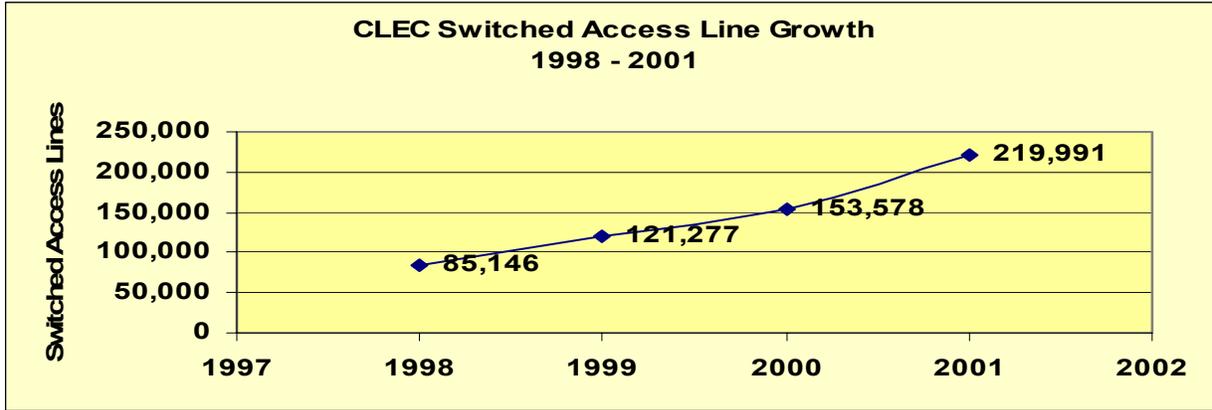
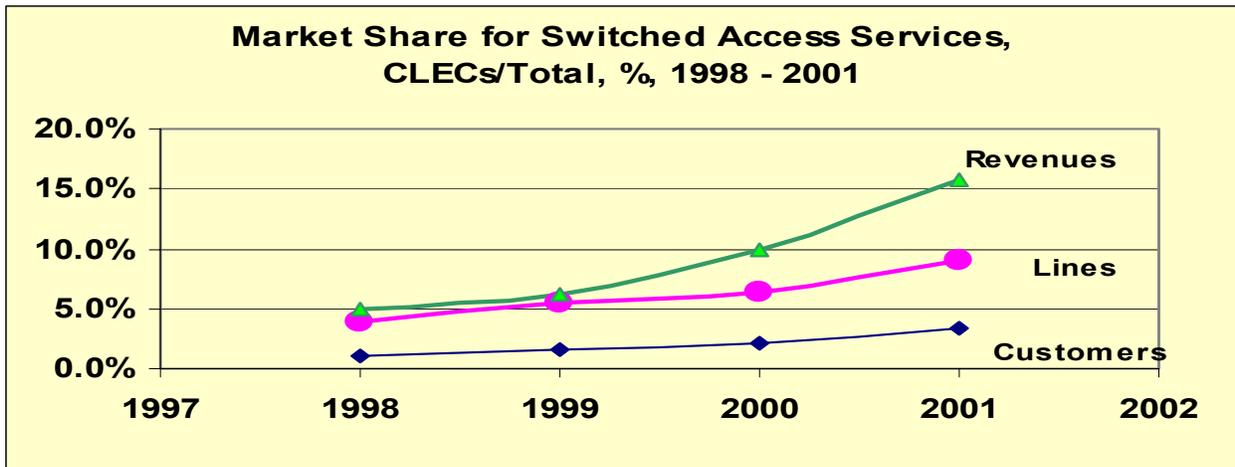


Figure 9 shows CLEC market share growth for revenues, lines served, and customers. By 2001, CLEC revenues had tripled compared to 1998, increasing from \$45.3 million to \$135.4 million. Annual increases for CLEC switched access lines in the last four years have ranged from 26% to 43%. The average annual increase was 37.4%.

**Figure 9. CLEC Growth in Switched Access Services – 1998 to 2001**



## V. Private Line & Data Market - Market Size and Share Analysis

### 1. Market Size and Shares

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).

Total revenue of local private line services made up 3.4% of total service revenues, and switched services provided the other 96.6%.

23 CLECs reported they provide local exchange private line services. These CLECs share of the retail market ranged from 3.4% to 17.5% (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**

2001	All LECs	CLECs	ILECs	CLECs Share
<b>Customers</b>	<b>15,978</b>	<b>1,947</b>	<b>14,031</b>	<b>12.2%</b>
<b>Total Circuits</b>	<b>54,730</b>	<b>1,890</b>	<b>52,840</b>	<b>3.5%</b>
<b>Lower Capacity</b>	<b>45,078</b>	<b>1,527</b>	<b>43,551</b>	<b>3.4%</b>
<b>Higher Capacity</b>	<b>9,652</b>	<b>363</b>	<b>9,289</b>	<b>3.8%</b>
<b>Revenues Year - \$000</b>	<b>\$29,782</b>	<b>\$5,204</b>	<b>\$24,578</b>	<b>17.5%</b>
<b>Revenue\$ / Circuit/Year</b>	<b>\$544</b>	<b>\$2,754</b>	<b>\$465</b>	

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(1) The CLEC market share of local private line customers<sup>5</sup> was 12.2% up from 4.2% in 2000. There were a total of 15,978 local exchange private line retail customers.<sup>6</sup> The ILECs provided service to 14,031 (87.8%) of the total. ILECs lost 8% market share on the private line & data market in 2001.

(2) The CLEC market share of all circuits<sup>7</sup> was 3.5% (1,947), up from 2.7% in 2000. The CLEC market share of higher capacity circuits was 3.8% (363), up from 3.1% in 2000, while the market share for lower capacity circuits was 3.4% (1,527), up from 2.6% in 2000.

Oregon LECs provided 9,652 higher capacity circuits to retail customers. The ILECs supplied 9,289 (96.2%), while CLECs supplied the remaining 363 (3.8%).

Oregon LECs provided 54,730 local exchange private line circuits to retail customers in 2001. The ILECs supplied 96.2% (52,840) of the total, while the CLECs supplied the remaining 1,890 circuits (3.8%).

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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)."

<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.

**Table 10. Private Line Revenues, 2001**

	<b>Total</b>	<b>ILECs</b>	<b>CLECs</b>
<b>Share</b>	<b>100.0%</b>	<b>82.5%</b>	<b>17.5%</b>
<b>\$ Million/year</b>	<b>\$29.8</b>	<b>\$24.6</b>	<b>\$5.2</b>

(3) The CLECs' share of total local private line service revenues<sup>8</sup> was 17.5% (compare to 5% in 2000) (see Table 10). Retail revenues from private line services were an estimated \$29.8 million annually<sup>9</sup>. As shown in Table 9, of the total estimated annual revenues, ILECs received \$24.6 million (82.5%), and CLECs the remaining \$5.2 million (compare to \$1.7 million in 2000). The CLECs' share of revenues was greater than the CLECs' share of circuits and customers. CLECs have focused on higher capacity private line services.

## 2. CLEC Provisioning of Private Lines

Of the 1,890 CLECs local exchange private line circuits identified in the survey, 1,479 (78%) were supplied by 11 facilities-based providers. 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.

Eleven CLECs provided private line services by reselling ILEC services. 65% of the resale was to business customers. 45% of the circuits provided were in the Central area. Five CLECs provided private line service by reselling other CLEC services, most of this resale was to business customers, and all of this resale was in the Portland metropolitan area.

## 3. Market Trends in Local Private Line Services

Technological change is the driving force in the telecommunications industry. Many different technologies and types of networks can provide voice telephone service, with

<sup>8</sup> The survey defined private line "**revenues**" as the amount a firm billed in December 2001 for local exchange private line services, whether billed in advance or arrears. This included regulated and non-regulated, federal and state charges. Circuit terminations, transport, and add-on capabilities such as multiplexing, conditioning, and bridging. Exclude taxes that your firm billed to customers."

<sup>9</sup> Annual revenues are calculated as revenues reported for December 2001 times 12.

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new ones arriving seemingly every year. The relatively narrow bandwidth of today's 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.

DSL service was included as a private line service in the survey. In 2001, ILECs' private line service revenue dropped by 17.5%, in contrast, CLECs' revenues increased by 300%, from \$1.7 million to \$5.2 million. The combined impact resulted in a total private line and data service revenue decrease of 14.6%, from \$34.9 million, to \$29.8 million. If market growth is measured by number of circuits, the private line market decreased by 1% compared to the year before. ILECs decreased by 2%, and CLECs increased by 27%.

### VI. Market Sectors by Regions and Types

Oregon was separated into six geographic regions in the survey. The regions are based on clusters of ILEC local exchange serving areas (see Figure 10). The regions are: (1) Portland Metropolitan,<sup>10</sup> (2) Willamette Valley,<sup>11</sup> (3) Southwest Interior,<sup>12</sup> (4) Coast,<sup>13</sup> (5) Central,<sup>14</sup> and (6) East.<sup>15</sup>

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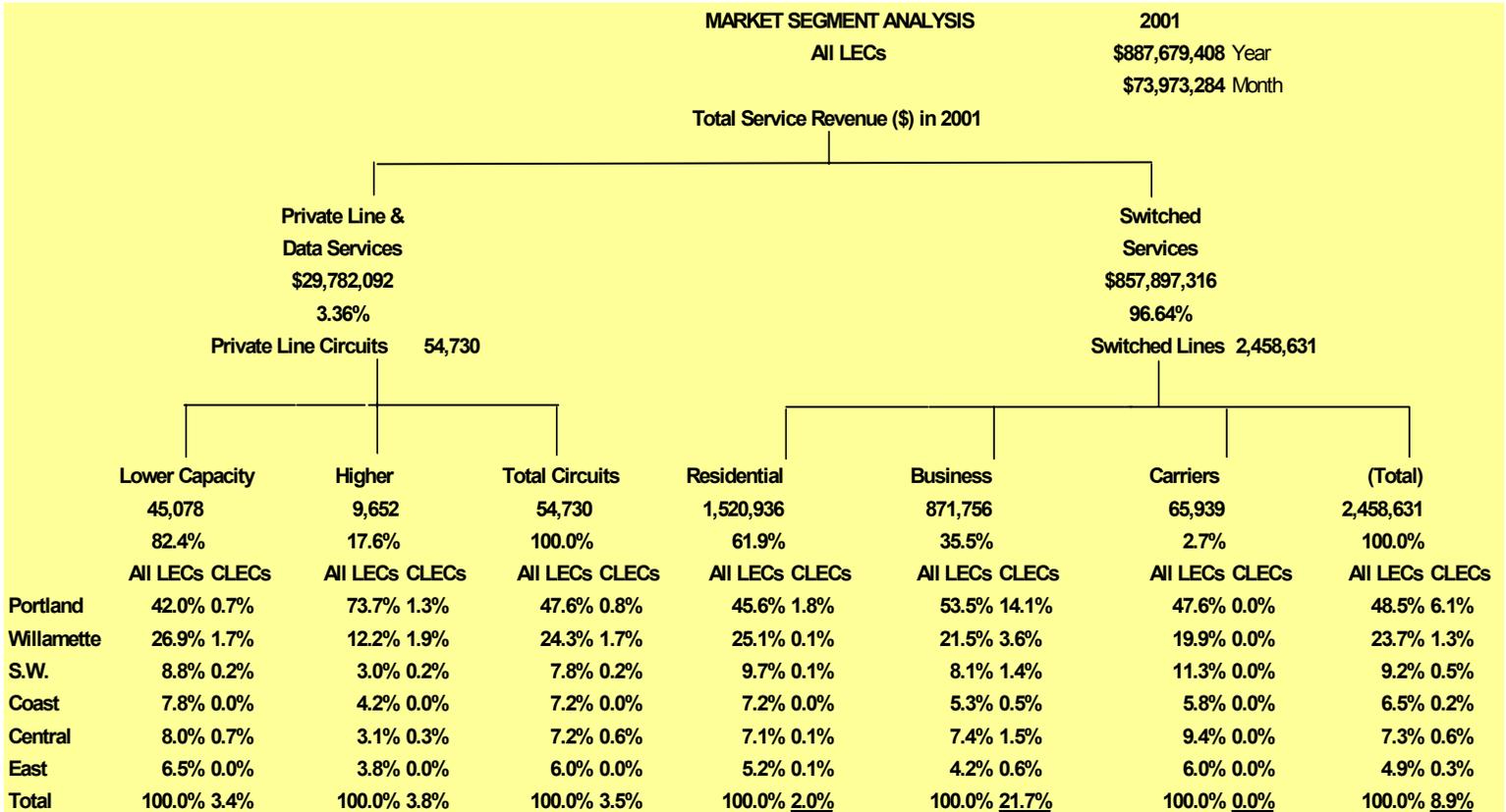
<sup>10</sup> **"Portland Metropolitan"** region consists of the following exchanges: Aurora, Beaver Creek, Beaverton, Burlington, Canby, Carlton, Charbonneau, Colton, Corbett, Estacada, Forest Grove, Gresham, Hillsboro, Hoodland, Lake Oswego, Molalla, Newberg, North Plains, Oak Grove/Milwaukie, Oregon City, Portland, Redland, Sandy, Scappoose, Scholls, Sherwood, Stafford, Sunnyside, Tigard, Vernonia, Woodburn/Hubbard, Yamhill.

<sup>11</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>12</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>13</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,

Figure 10. Local Exchange Carriers Market Sectors and Shares



Myrtle Point, Nehalem, Newport, Pacific City, Port Orford, Powers, Reedsport, Rockaway, Scottsburg, Seaside, Siletz, South Beach, Tidewater, Tillamook, Toledo, Waldport, Warrenton, Westport, Yachats.

<sup>14</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.

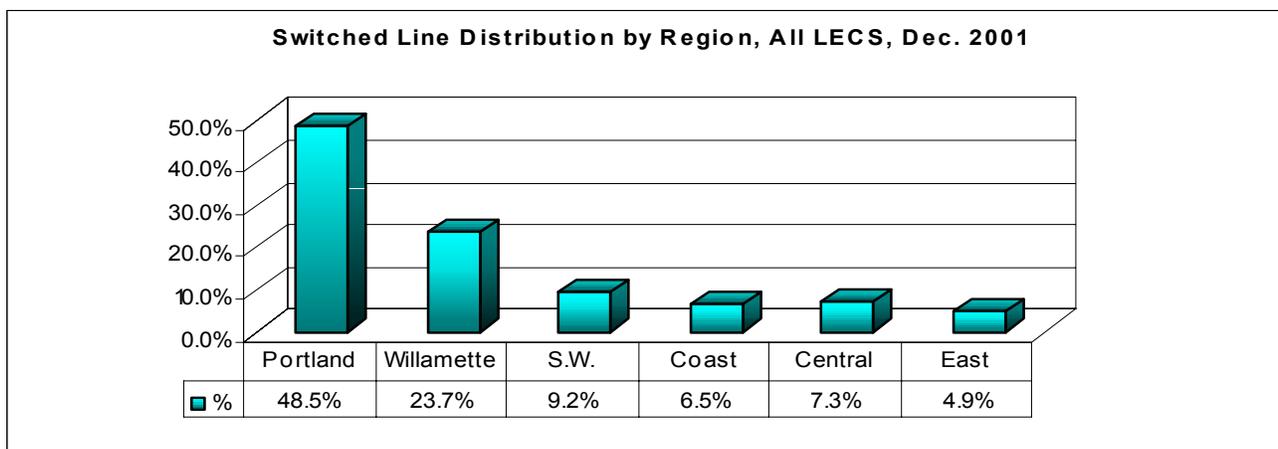
<sup>15</sup> "East" region consists of the following exchanges: Adrian, Athena/Weston, Baker, Bates, Boardman, Burns, Cove, Dayville, Durkee, Echo, Elgin, Enterprise, Flora/Troy, Haines, Halfway, Harney, Helix, Heppner, Hereford/Unity, Hermiston, Huntington, Imbler, Lone, John Day, Jordan Valley, Joseph, 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.

## 1. Market Sectors by Regions

### A. Switched Line Services by Region

The survey asked each LEC to report how many switched local exchange lines it was supplying to customers in each region.<sup>16</sup> According to the responses, the largest regional market as of December 2001 was the Portland Metropolitan Region. It accounted for 48.5% (see Figure 11) of all retail local exchange switched lines in the state. Second was the Willamette Valley Region, with 23.7% of the lines. The other four regions accounted for less than a third of the state's lines: Southwest Interior (9.2%), Coast (7.3%), Central (6.5%), and East (4.9%).

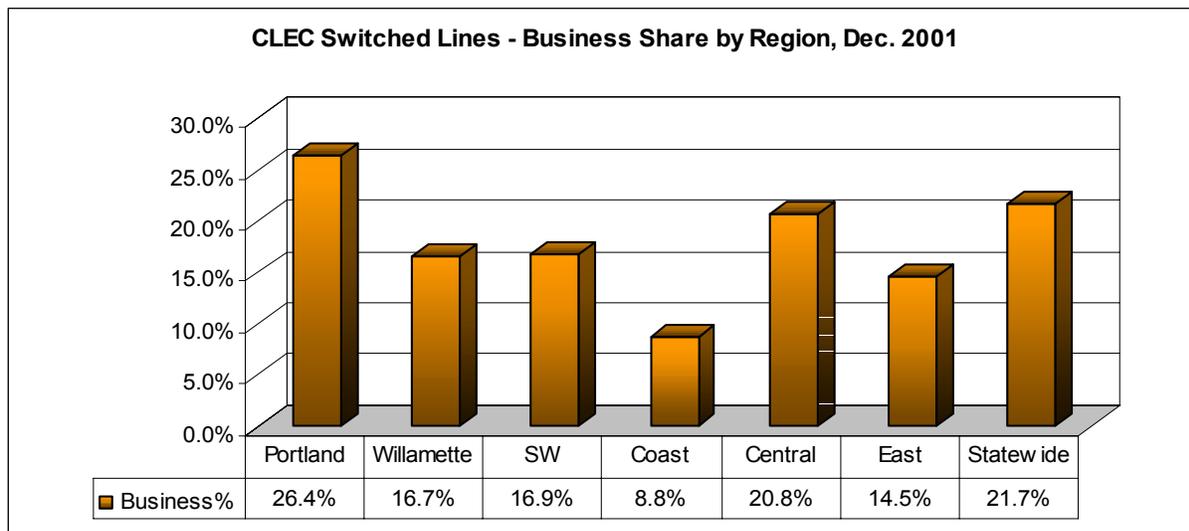
**Figure 11. Oregon Switched Lines by Region**



Survey responses indicate that CLECs were providing competitive local switched services in all six regions of the state. Competitive entry was highest in the Portland Metropolitan Region – the most populous area, with the Willamette Region a close second. Statewide, CLECs had an 8.9% share of switched local exchange lines. 68% of the CLECs' lines are in the Portland Metropolitan Region, followed by the Willamette Valley with 14.6%, then the Central (6.6%), Southwest Interior (5.8%), East (3%) and Coast (2%).

<sup>16</sup> The survey also asked each LEC to report how many local private line circuits it was supplying to customers in each region during December 2001. Some LECs did not provide useable responses to this question. As a result, it is not possible to conduct a reliable analysis of regional differences for local private line services. Staff is attempting to obtain better information.

**Figure 12. CLEC Switched Lines – Business Service by Region**



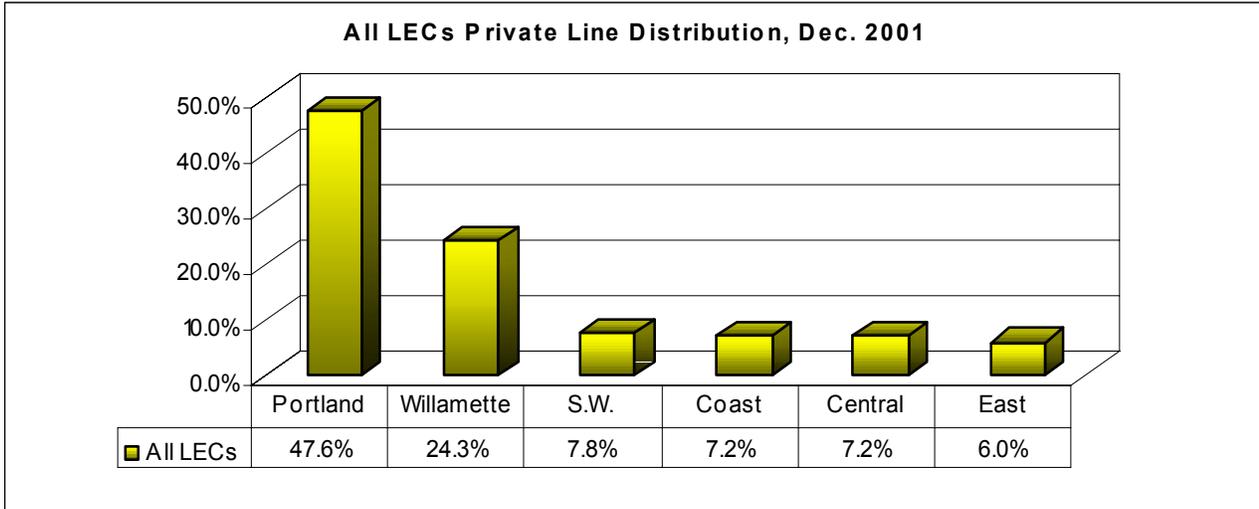
When business lines are considered separately, the highest CLEC switched line market sector was, again, the Portland Metropolitan Region (14.1%, up from 8.7% in 2000). The Willamette Valley was next at 3.6% (see Figure 12), followed by the Central Region (1.5%), Southwest Interior (1.4%), East (0.6%) and Coast (0.5%). CLECs have a 21.7% (up from 14% in 2000) share of business lines in the State.

Statewide, the CLEC share of residential lines was 2.0%. By region, about 90% of the CLECs' residential lines are in the Portland Metropolitan Region. A new technology introduced a hybrid voice and cable TV network to the market (Coaxial loop) in 2000. After one year, however, CLECs' residential share did not change.

**B. Private Line Services by Region**

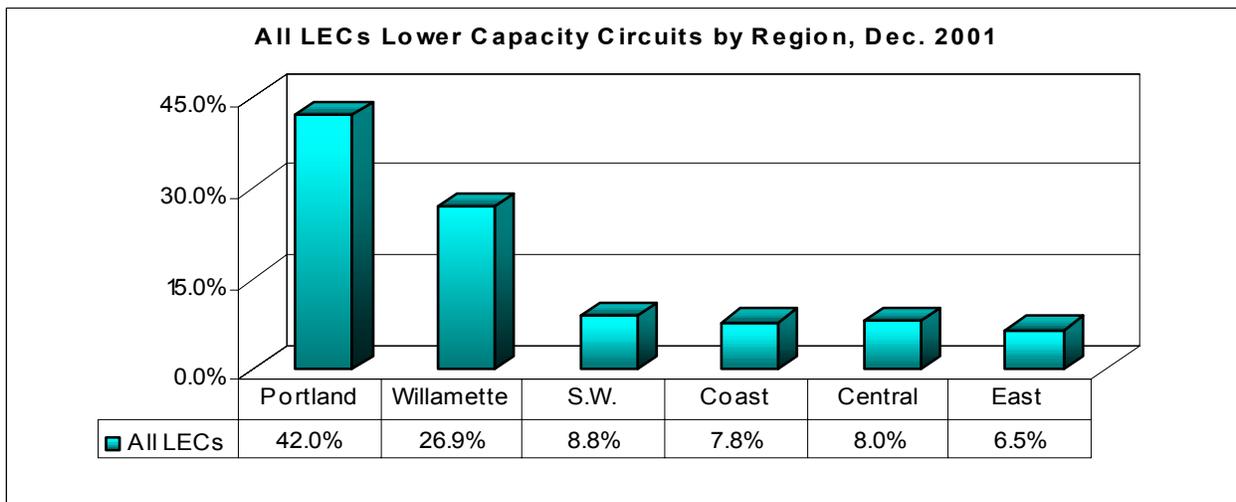
The Portland Metropolitan Region was the largest regional private line market, with 47.6% (see Figure 13) of all retail local exchange private line circuits in the state. The second largest was the Willamette Valley, with 24.3% of circuits. The other four regions together accounted for about 28% of the state's circuits: Coast (7.2%), Southwest Interior (7.8%), Central (7.2%), and East (6%).

**Figure 13. Oregon Private Line Service by Region, Dec. 2001**



Lower Capacity Circuits: Of the state's 54,730 local exchange private line circuits, most (82.4%) were in the lower capacity category. The Portland Metropolitan Region was the largest market for lower capacity circuits, with 42% (see Figure 14) of the lower capacity circuits in the state. The second largest market was the Willamette Valley, with 27% of lower capacity circuits, followed by Southwest Interior (9%), Central (8%), Coast (8%), and East (7%).

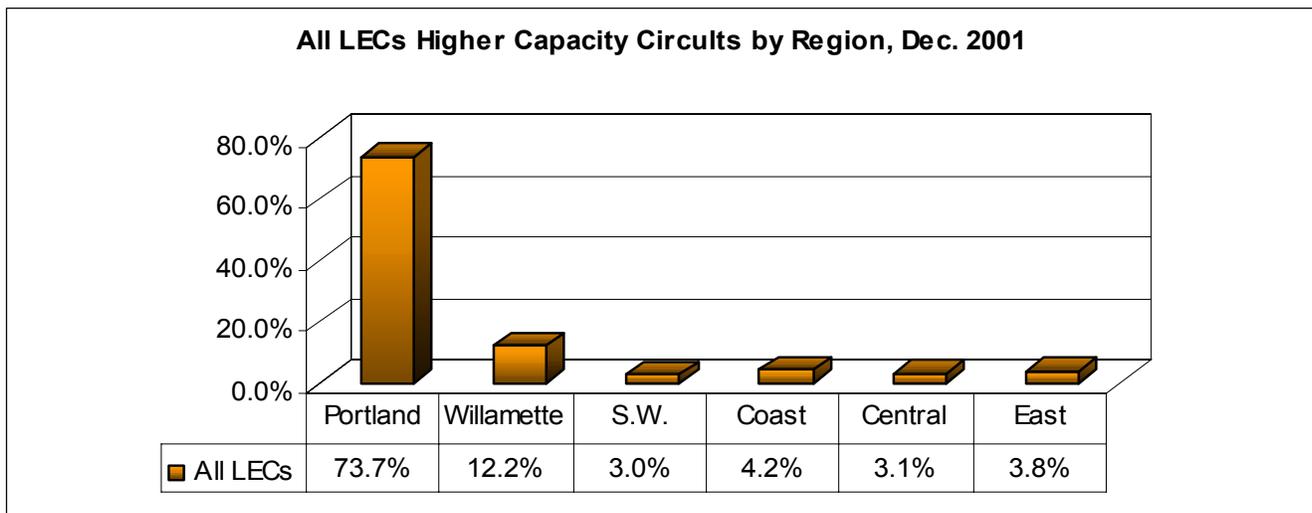
**Figure 14. Oregon Lower Capacity Circuits Distribution by Regions, Dec. 2001**



The CLECs' share of lower capacity circuits was very low statewide, at 3.4%. The Willamette Valley Region had 51% of the CLEC lower capacity circuits.

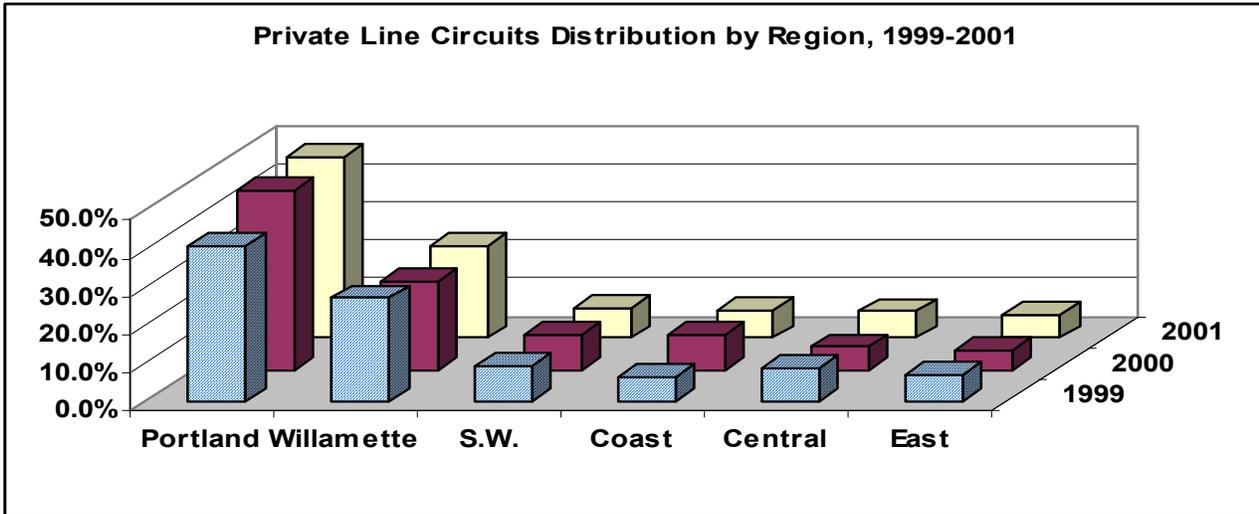
Higher Capacity Circuits: All LECs higher capacity circuits accounted for 17.6% of the state's total private line circuits. In December 2001, the market for higher capacity circuits was concentrated in the Portland Metropolitan Region. It had 74% (see Figure 15) of all higher capacity circuits. The second largest regional market was the Willamette Valley, with 12%, followed by Coast (4.2%), East (3.8%), Central (3.1%), and Southwest Interior (3%).

**Figure 15. Oregon Higher Capacity Circuits Distribution by Regions, Dec. 2001**



The CLECs' share of higher capacity circuits was 3.8% statewide. The Willamette Valley Region has the largest portion of the total CLEC share at about 50%. Private line service in Oregon is heavily focused on the Portland Metropolitan Area (see Figure 16). All LECs' private line service revenue dropped by 14.6% in 2001.

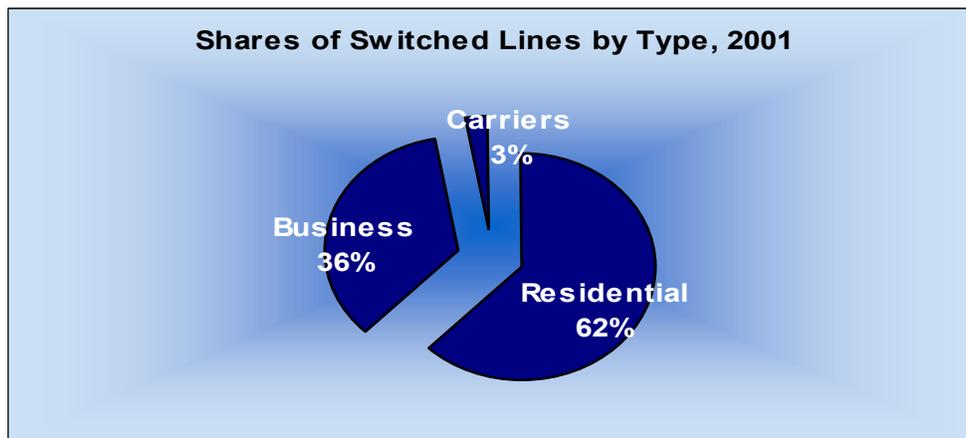
**Figure 16. Private Line Circuits Distribution, 1999 - 2001**



**A. Switched Line Services**

The survey grouped customers into three sectors: Business, residential, and carrier. 62% of switched service revenues were from residential services, 36% were from business, and 3% were from carriers (see Figure 17).

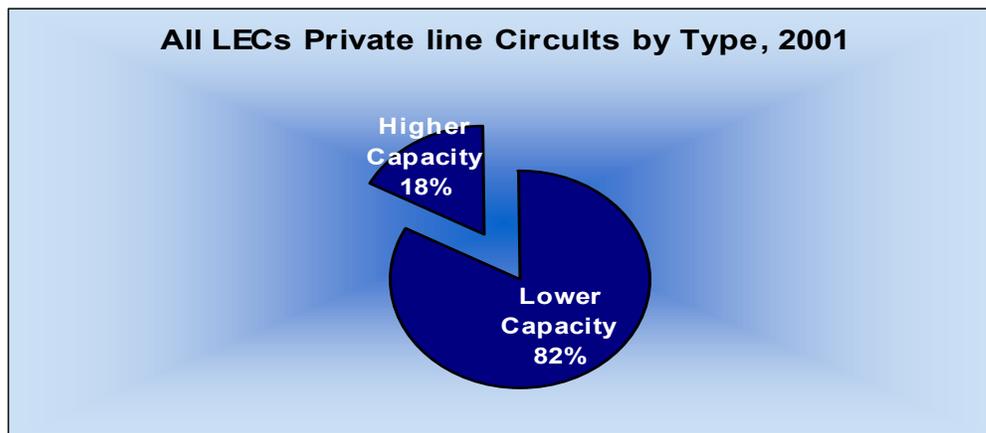
**Figure 17. Oregon Switched Service Lines by Types**



## 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 physical connection or path between two given points providing one- or two-way communication, including both sending and receiving capabilities. Capacity is determined by the highest data transmission rate in either direction. Figure 18 shows that 82% of private line circuits were lower capacity, and that 18% were higher capacity (digital-data transmission  $\geq$  T-1 rates of 1.544 Mbits).

**Figure 18. Oregon Private Line Circuits by Types**



## VII. Conclusion

In 2001, Oregon local telecommunications market was an \$888 million industry, comprised of 2,458,630 switched line and 54,730 private line circuits. Industry wide revenues decreased \$17 million from 2000. For switched lines, while revenues decreased by 2%, the estimated number of lines served increased 2%. For private lines, circuits served decreased 1%, and revenue decreased by 15% compared to a year earlier.

The local telecom markets remain mostly as monopolies, with competitors accounting for 8.9% of all local exchange switched phone lines. CLECs' share of exchange lines for the residential sector was still only 2% in 2001, same as in 2000. There does not appear to be sufficient incentives for CLECs to compete with ILECs on

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a broad scale in local residential market. CLECs had captured 22% (up from 14%) of the business lines by the end of 2001, indicating the larger margin potential in the more concentrated business sector.

A small number of people in Oregon have a high-speed digital access, with about 4.8% of Oregon consumers (residential and business) having any type of fast digital access. This is comparable to the nationwide penetration of less than 5% in late 2000. Oregon's 4.8% market share (measured by revenue) consists of 3.4% private line services (including DSL - Digital Subscriber Line) and 1.4% on cable TV network. The market share of high-speed cable TV network access is low because of its limited availability in Oregon.

The 8.9% of switched lines provided by CLECs in 2001 (up from 6.4% in 2000) produced 15.8% (up from 9.9% in 2000) of total LEC revenues for switched service. CLECs provided 3.5% (2.7% in 2000) of the local exchange private line circuits, which produced 17.5% (5.0% in 2000) of total revenues in private line services.

**Local Exchange Carriers Market Sectors and Shares**

MARKET SEGMENT ANALYSIS														
All LECs														
2001														
\$887,679,408 Year														
\$73,973,284 Month														
Total Service Revenue (\$) in 2001														
Private Line & Data Services						Switched Services								
\$29,782,092						\$857,897,316								
3.36%						96.64%								
Private Line Circuits			54,730			Switched Lines			2,458,631					
Lower Capacity		Higher		Total Circuits		Residential		Business		Carriers		(Total)		
45,078		9,652		54,730		1,520,936		871,756		65,939		2,458,631		
82.4%		17.6%		100.0%		61.9%		35.5%		2.7%		100.0%		
All LECs CLECs		All LECs CLECs		All LECs CLECs		All LECs CLECs		All LECs CLECs		All LECs CLECs		All LECs CLECs		
Portland	42.0%	0.7%	73.7%	1.3%	47.6%	0.8%	45.6%	1.8%	53.5%	14.1%	47.6%	0.0%	48.5%	6.1%
Willamette	26.9%	1.7%	12.2%	1.9%	24.3%	1.7%	25.1%	0.1%	21.5%	3.6%	19.9%	0.0%	23.7%	1.3%
S.W.	8.8%	0.2%	3.0%	0.2%	7.8%	0.2%	9.7%	0.1%	8.1%	1.4%	11.3%	0.0%	9.2%	0.5%
Coast	7.8%	0.0%	4.2%	0.0%	7.2%	0.0%	7.2%	0.0%	5.3%	0.5%	5.8%	0.0%	6.5%	0.2%
Central	8.0%	0.7%	3.1%	0.3%	7.2%	0.6%	7.1%	0.1%	7.4%	1.5%	9.4%	0.0%	7.3%	0.6%
East	6.5%	0.0%	3.8%	0.0%	6.0%	0.0%	5.2%	0.1%	4.2%	0.6%	6.0%	0.0%	4.9%	0.3%
<b>Total</b>	<b>100.0%</b>	<b>3.4%</b>	<b>100.0%</b>	<b>3.8%</b>	<b>100.0%</b>	<b>3.5%</b>	<b>100.0%</b>	<b>2.0%</b>	<b>100.0%</b>	<b>21.7%</b>	<b>100.0%</b>	<b>0.0%</b>	<b>100.0%</b>	<b>8.9%</b>

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While the CLECs had a small percentage of the overall market, they achieved a significant presence in specific market sectors. CLECs provided 21.7% (up from 14.2% in 2000) of switched business lines. The predominant form of CLEC competitive entry was through resale. Regional concentration as of December 2001 was in the Portland Metropolitan area, with well over one-half of all CLEC business lines.

Switched services CLEC revenue from the business market increased 43.2% from \$70.9 to \$115.1 million from 2000 to 2001. CLECs have been actively pursuing business customers. Correspondingly, ILEC business revenue dropped in 2001, by 11.4%, after a drop of 9.6% in 2000.

54% (117,866 of 219,991) of CLEC switched access lines (4.8% of all LECs' switched lines) were provided by acquiring unbundled network elements (UNE) from incumbent local exchange carriers.