

# *Trends in Telephone Service*



*Industry Analysis Division  
Common Carrier Bureau*

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## Table of Contents

|   |            |
|---|------------|
| <b>Introduction</b> .....   | <b>1-1</b> |
| <b>Access Charges</b> .....   | <b>1-3</b> |
| Table 1.1 Interstate Per-Line Access Charges .....  | 1-5        |
| Table 1.2 Interstate Per-Minute Access Charges .....  | 1-6        |
| Table 1.3 Interstate Per-Line Access Charges by Carrier .....   | 1-7        |
| Table 1.4 Interstate Per-Minute Access Charges by Carrier .....   | 1-8        |
| <b>Advanced Telecommunications</b> .....  | <b>2-1</b> |
| Table 2.1 High-Speed Lines .....  | 2-3        |
| Table 2.2 Advanced Services Lines .....   | 2-3        |
| Table 2.3 Residential and Small Business High-Speed Lines .....   | 2-3        |
| Table 2.4 High-Speed Lines by Technology .....  | 2-4        |
| <b>Consumer Expenditures</b> .....  | <b>3-1</b> |
| Table 3.1 Household Expenditures for Telephone Service .....  | 3-3        |
| Chart 3.1 Monthly Telephone Service Expenditures .....  | 3-3        |
| Table 3.2 Average Monthly Household Telecommunications Expenditures<br>by Type of Provider .....                  | 3-4        |
| <b>Earnings</b> .....   | <b>4-1</b> |
| Table 4.1 Interstate Rate-of-Return Summary .....   | 4-3        |
| <b>Employment and Labor Productivity</b> .....  | <b>5-1</b> |
| Table 5.1 Annual Average Number of Employees in the Telephone<br>Communications Industry .....                    | 5-3        |
| Chart 5.1 Annual Average Number of Employees in the Telephone<br>Communications Industry .....                    | 5-3        |
| Table 5.2 Labor Productivity Index for the Telephone Communications<br>Industry Measured in Output per Hour ..... | 5-4        |
| Chart 5.2 Telephone Communications Industry (SIC 481) Labor Productivity Index .....                              | 5-4        |
| Table 5.3 Number of Telecommunications Service Providers That Are Small<br>Businesses .....                       | 5-5        |
| <b>International Telephone Service</b> .....  | <b>6-1</b> |
| Table 6.1 International Service from the United States to Foreign Points .....                                    | 6-3        |
| Table 6.2 International Telephone Service Settlements .....   | 6-4        |
| Table 6.3 International Message Telephone Service for 1999 .....  | 6-5        |
| Chart 6.1 U.S. Billed Minutes by Country .....  | 6-5        |
| Table 6.4 U.S. Billed Revenues of Facilities-Based and Facilities- Resale Carriers<br>in 1999 .....               | 6-6        |
| Table 6.5 Top Providers of Pure Resale International MTS in 1999 .....  | 6-7        |

|   |             |
|---|-------------|
| <b>Lifeline and LinkUp Programs .....</b>   | <b>7-1</b>  |
| Table 7.1 Lifeline Monthly Support by State or Jurisdiction .....   | 7-5         |
| Table 7.2 Lifeline Assistance - Subscribers by State or Jurisdiction .....  | 7-6         |
| Table 7.3 LinkUp Assistance - Subscribers by State or Jurisdiction .....  | 7-7         |
| Table 7.4 Lifeline Assistance Annual Payments by State or Jurisdiction .....  | 7-8         |
| Table 7.5 LinkUp Assistance Annual Payments by State or Jurisdiction .....  | 7-9         |
| Table 7.6 Universal Service Payments .....  | 7-10        |
| <b>Lines .....</b>  | <b>8-1</b>  |
| Table 8.1 Total U.S. Telephone Lines .....  | 8-3         |
| Table 8.2 Telephone Loops of Incumbent Local Exchange Carriers by State .....   | 8-4         |
| Table 8.3 Telephone Loops of Incumbent Local Exchange Carrier by Holding Company .....                                    | 8-5         |
| Table 8.4 Additional Residential Lines for Households with Telephone Service .....  | 8-6         |
| Table 8.5 Number of Payphones Owned by LECs and Independent Operators .....   | 8-7         |
| <b>Local Telephone Competition .....</b>  | <b>9-1</b>  |
| Table 9.1 Total End-User Lines Reported .....   | 9-5         |
| Table 9.2 End-User Lines by Customer Type .....   | 9-5         |
| Table 9.3 Reporting Competitive Local Exchange Carriers .....   | 9-6         |
| Table 9.4 Reporting Incumbent Local Exchange Carriers .....   | 9-6         |
| Table 9.5 End-User Lines Served by Reporting Local Exchange Carriers .....  | 9-7         |
| Table 9.6 Nationwide Local Service Revenues and New Competitors' Share .....  | 9-8         |
| Table 9.7 Telephone Numbers Transferred or Ported .....   | 9-9         |
| <b>Long Distance Telephone Industry .....</b>   | <b>10-1</b> |
| Table 10.1 Toll Service Revenues by Carrier .....   | 10-5        |
| Table 10.2 Intrastate, Interstate, and International Toll Revenues .....  | 10-8        |
| Chart 10.1 Toll Revenues by Market Segment .....  | 10-8        |
| Table 10.3 Residential and Nonresidential Toll Revenues .....   | 10-9        |
| Chart 10.2 Residential and Nonresidential Toll Revenues .....   | 10-9        |
| Table 10.4 Number of Toll Carriers .....  | 10-10       |
| Table 10.5 Number of Carrier Identification Codes (CICs) Assigned by North<br>American Numbering Plan Administrator ..... | 10-11       |
| Table 10.6 Alternative Measures of Long Distance Carrier Development .....  | 10-12       |
| Table 10.7 AT&T, ILECs and Other Toll Service Providers' Toll Revenues .....  | 10-13       |
| Chart 10.3 AT&T's Share of Toll Revenues .....  | 10-13       |
| Table 10.8 Share of Total Toll Service Revenues - Long Distance<br>Carriers Only .....                                    | 10-14       |
| Table 10.9 Share of Total Toll Service Revenues - All Long Distance<br>Toll Providers .....                               | 10-14       |
| Table 10.10 Residential Market Share: 1995 - 2000 .....   | 10-15       |
| Table 10.11 Market Share of Residential Direct-Dial Minutes by State: 2000 .....  | 10-16       |
| Table 10.12 BOC Applications to Provide In-Region InterLATA Service .....   | 10-17       |
| <b>Minutes .....</b>  | <b>11-1</b> |
| Table 11.1 Dial Equipment Minutes .....   | 11-3        |

|  |             |
|--|-------------|
| Table 11.2 Line Usage per Day.....   | 11-4        |
| Table 11.3 Interstate Switched Access Minutes .....  | 11-5        |
| Chart 11.1 Interstate Switched Access Minutes .....  | 11-5        |
| <b>Mobile Wireless Service.....</b>  | <b>12-1</b> |
| Table 12.1 Mobile Wireless Telephone Subscribers as Reported on FCC Form 477.....                | 12-3        |
| Table 12.2 Wireless Telephone Subscribers.....   | 12-4        |
| Table 12.3 Wireless Telephone Service: Industry Survey Results.....                              | 12-5        |
| <b>Price Indices for Telephone Services.....</b>   | <b>13-1</b> |
| Table 13.1 Long-Term Changes for Various Price Indices .....                                     | 13-3        |
| Table 13.2 Annual Changes in Major Price Indices .....   | 13-4        |
| Chart 13.1 CPI All Items and Telephone Services .....  | 13-4        |
| Table 13.3 Annual Changes in Price Indices for Local and Long Distance Telephone Services .....  | 13-5        |
| Chart 13.2 CPI Telephone Service Price Indices .....   | 13-5        |
| <b>Price Levels .....</b>  | <b>14-1</b> |
| Table 14.1 Average Residential Rates for Local Service in Urban Areas.....                       | 14-3        |
| Table 14.2 Average Local Rates for Businesses with a Single Line in Urban Areas .....            | 14-4        |
| Table 14.3 Changes in the Price of Directly Dialed Five-Minute Long Distance Calls .....         | 14-5        |
| Table 14.4 Average Revenue per Minute.....   | 14-6        |
| Table 14.5 Indicators of Long Distance Prices .....  | 14-7        |
| <b>Residential Telephone Usage .....</b>   | <b>15-1</b> |
| Table 15.1 Distribution of Residential Toll Calls and Minutes .....                              | 15-3        |
| Table 15.2 Average Residential Monthly Toll Calling.....   | 15-3        |
| Table 15.3 Duration of Residential Long Distance Calls: 2000 .....                               | 15-4        |
| Table 15.4 Length of Haul of Intrastate Toll Calls.....  | 15-5        |
| Table 15.5 Duration and Length of Haul of Interstate Toll Calls .....                            | 15-5        |
| Table 15.6 Distribution of Residential Long Distance Minutes by Day of Week in 2000 .....        | 15-6        |
| <b>Revenues.....</b>   | <b>16-1</b> |
| Table 16.1 Telecommunications Industry Revenues: 1999 .....                                      | 16-3        |
| Table 16.2 Telecommunications Revenues Reported by Type of Service .....                         | 16-4        |
| Table 16.3 Number of Interstate Telecommunications Providers by Principal Type of Business ..... | 16-5        |
| Table 16.4 Gross Revenues Reported by Type of Carrier .....                                      | 16-6        |
| Table 16.5 Telephone Revenues by State .....   | 16-7        |
| <b>Subscribership .....</b>  | <b>17-1</b> |
| Table 17.1 Household Telephone Subscribership in the United States.....                          | 17-2        |
| Table 17.2 Telephone Penetration by State .....  | 17-3        |
| Table 17.3 Historical Telephone Penetration Estimates.....                                       | 17-4        |
| Chart 17.1 Percent of U.S. Households with a Telephone, Computer, and Internet Use .....         | 17-5        |

|  |             |
|--|-------------|
| <b>Technology Development .....</b>  | <b>18-1</b> |
| Table 18.1 Central Offices and Access Lines by Technology.....                                   | 18-5        |
| Table 18.2 Features Available in Central Offices.....  | 18-6        |
| Table 18.3 Local Transmission Technology.....  | 18-7        |
| Table 18.4 Central Offices Converted to Equal Access.....  | 18-8        |
| Chart 18.1 Telecommunications Patents.....   | 18-9        |
| <b>Telephone Numbers .....</b>   | <b>19-1</b> |
| Table 19.1 Area Code Assignments.....  | 19-3        |
| Table 19.2 Telephone Numbers Assigned for Toll-Free Service.....                                 | 19-7        |
| Table 19.3 Dialing Patterns of the United States.....  | 19-14       |
| <b>Universal Service .....</b>   | <b>20-1</b> |
| Table 20.1 Universal Service Fund Payment History.....   | 20-3        |
| Table 20.2 Projected High-Cost Support Payments by State: 2000.....                              | 20-4        |
| Table 20.3 Schools and Libraries Funding Commitments by State and by<br>Type of Service.....     | 20-5        |
| Table 20.4 Rural Health Care Funding Commitments and Authorizations<br>for Payment by State..... | 20-6        |
| Table 20.5 Universal Service Fund Factors.....   | 20-7        |
| Chart 20.1 Interstate Universal Service Fund Factors.....  | 20-7        |
| Chart 20.2 Intrastate Universal Service Fund Factors.....  | 20-7        |
| <b>Appendix A – Sources of Telecommunications Information .....</b>                              | <b>21-A</b> |
| <b>Appendix B – Contacting the Report Authors .....</b>  | <b>22-A</b> |

## Introduction

*Trends in Telephone Service* is published by the Industry Analysis Division of the Federal Communications Commission's Common Carrier Bureau. We have designed this report to provide answers to some of the most frequently asked questions about the telephone industry -- questions asked by consumers, members of Congress, other government agencies, telecommunications carriers, and members of the business and academic communities. To this end, the report contains summary information about the size, growth, and development of the telephone industry, including data on market shares, minutes of calling, number of lines, and telephone subscribership. The report also provides information about access charges, consumer expenditures for service, infrastructure, international telephone traffic, long distance carriers, telephone rates and price changes, and universal service support.

*Trends in Telephone Service* summarizes a variety of information contained in other reports that are published periodically by the Industry Analysis Division. In most cases, these other reports give much more detailed information than that provided here. These reports can be accessed from our Internet site, **FCC-State Link**, at <[www.fcc.gov/ccb/stats](http://www.fcc.gov/ccb/stats)>. In addition, to facilitate further information gathering by consumers and others, we have listed additional sources of information in Appendix A, and we have provided information on contacting the authors of this report in Appendix B.

Highlights from sections in the report on advanced telecommunications services, international calling, local competition, telephone rates, subscribership, and toll-free numbers are shown below:

### **Advanced Telecommunications Services**

- High-speed lines (over 200 kbps in at least one direction) connecting homes and small businesses to the Internet increased by 63% during the second half of 2000, to a total of 7.1 million lines (or wireless channels) in service from about 4.4 million in June 2000.
- About 4.3 million high-speed lines provided speed of over 200 kbps in both directions, and thus met the Commission's definition of advanced services, compared to about 2.9 million in June 2000.

### **Local Telephone Competition**

- As of December 2000, Competitive Local Exchange Carriers (CLECs) provided 16.4 million (or 8.5%) of the approximately 194 million nationwide local telephone lines that were in service to end users as opposed to 8.3 million (or 4.4%) of nationwide local telephone lines at the end of 1999. This represents a 97% growth in CLEC market size during the year 2000.
- About one-third of CLEC end-user lines are served over "local loop" facilities that the CLECs own.
- Incumbent Local Exchange Carriers (ILECs) reported providing other carriers about 6.8 million lines on a resale basis at year-end 2000, compared to about 5.7 million lines six months earlier, and they provided about 5.3 million unbundled network element (UNE) loops at the end of the year 2000, an increase of 62% during the six months.

### **Telephone Rates**

- Local phone rates have remained steady. The average monthly local residential charge for service was \$20.78 in October 2000 as compared to \$19.24 in 1990; for a business with a single phone line, the representative charge for service was \$41.80 in October 2000 as compared to \$41.21 in October 1990.

### **Subscribership**

- More than twenty million households have been added to the nation's telephone system since November 1983. As of November 2000, 100.2 million households had telephone service.

### **Toll-Free Numbers**

- There are currently four toll-free prefixes in use - 800, 888, 877, and 866 - with almost 24.5 million toll-free numbers assigned as of the end of July 2001.

# 1 Access Charges

Long distance companies rely on the loops, switches, and transport facilities of local telephone companies for access to their customers. As a result, local telephone companies recover a portion of their costs from long distance companies accessing their networks. Both the manner in which these access charges have been assessed and the proportion of the costs they have recovered have varied considerably over time.

In the early 1980s, AT&T provided about three-quarters of the nation's local telephone service and almost all interstate long distance service. Because revenue sharing was largely an internal process for AT&T, it was able to charge prices above true economic cost for long distance calls and share the revenues with local telephone companies. These transfers, while reducing the pressures on the local companies to raise monthly rates, contributed to inefficiently high long distance rates. The high rates were responsible for suppressing demand for long distance calls and inducing large corporations to bypass the public switched network. Moreover, while such revenue sharing arrangements were sustainable in an industry where one firm monopolized both long distance and local service, they were not compatible with a competitive long distance industry.

In mid-1984 the FCC, in cooperation with a Federal-State Joint Board composed of both federal and state regulators, introduced sweeping changes in the way that local telephone companies charged for their services. The historic method of sharing revenues was replaced with a new system of access charges that provided a uniform method for local telephone companies to charge long distance carriers for the origination and termination of interstate traffic on their local networks. In addition, monthly subscriber line charges (SLCs) were introduced to recover a portion of the fixed costs of the local telephone companies' loops directly from end users on a per-line basis.<sup>1</sup> Since local telephone companies were required to reduce their charges to long distance carriers -- dollar for dollar -- as SLCs were introduced, the pricing changes reduced the implicit subsidy from long distance use to local service. The rebalancing of prices between local service and interstate long distance calls during the 1980s had a fundamental impact on the telephone industry as the price of long distance service fell and the volume of long distance calling surged.

In mid-1997, as part of its implementation of the 1996 Telecommunications Act, the FCC introduced further interstate access charge reform. Prior to the 1997 reform, local carriers continued to recover part of their fixed costs in per-minute charges (from long distance carriers) and part from end users (in SLCs.) Presubscribed interexchange carrier charges (PICCs) were created in order to allow local carriers to recover the remaining portion of their fixed loop costs from long distance carriers on a per-line, instead of a per-minute, basis. Cost recovery on a per-line basis not only reduces the remaining inefficiency in the pricing of long distance access, but allows local companies to recover costs in a competitively neutral manner, consistent with the goals of the 1996 Act.

As part of access charge reform, on May 31, 2000, the FCC eliminated PICCs and

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<sup>1</sup> Under the Commission's nomenclature, SLCs are called access charges even though they are collected from customers (end users) rather than long distance carriers.



consolidated them with SLCs and all price-cap local exchange carriers reduced access charges paid by long distance carriers. Also as part of access charge reform, some of the large interexchange carriers agreed to eliminate monthly minimum usage charges. The impact of access charge reform on per-minute access charges by carriers is evident in the data presented in Tables 1.1 through 1.4

Average monthly SLCs and PICCs are shown in Table 1.1, and average per-minute rates charged to long distance carriers are shown in Table 1.2. Both tables report historical averages for all local exchange carriers (LECs) that file access tariffs subject to price-cap regulation and LECs in the National Exchange Carrier Association (NECA) pool. These LECs control over 98% of the industry's access lines. Current per-line charges and per-minute charges are reported for each of the carriers in Tables 1.3 and 1.4, respectively.

The data in Table 1.2 clearly illustrate the effectiveness of access reform in reducing the prices long distance carriers pay per minute for access to the local telephone companies' networks. Per-minute access prices have continually decreased over time, a trend that continues with implementation of the 1997 and 2000 reforms.

**Table 1.1**  
**Interstate Per-Line Access Charges**  
**(National Average per Month per Line) 1/**

| Rates in Effect |             | Charged to End Users 2/<br>(Subscriber Line Charges) |                            |                                      | Charged to Long Distance Carriers 3/<br>(Presubscribed Interexchange Carrier Charges) |                            |                       |         |
|-----------------|-------------|--|----------------------------|--------------------------------------|---|----------------------------|-----------------------|---------|
| From            | To          | Residential and<br>Single-Line<br>Business           | Non-Primary<br>Residential | Multiline<br>Business<br>and Centrex | Residential and<br>Single-Line<br>Business  | Non-Primary<br>Residential | Multiline<br>Business | Centrex |
| 05/26/84        | 05/31/85    | \$0.00   |                            | \$4.99                               |   |                            |                       |         |
| 06/01/85        | 09/30/85    | 1.00   |                            | 4.99                                 |   |                            |                       |         |
| 10/01/85        | 05/31/86    | 1.00   |                            | 4.97                                 |   |                            |                       |         |
| 06/01/86        | 12/31/86    | 2.00   |                            | 4.97                                 |   |                            |                       |         |
| 01/01/87        | 06/30/87    | 2.00   |                            | 5.12                                 |   |                            |                       |         |
| 07/01/87        | 12/31/87    | 2.60   |                            | 5.12                                 |   |                            |                       |         |
| 01/01/88        | 11/30/88    | 2.60   |                            | 5.01                                 |   |                            |                       |         |
| 12/01/88        | 03/31/89    | 3.20   |                            | 5.01                                 |   |                            |                       |         |
| 04/01/89        | 12/31/89    | 3.50   |                            | 4.94                                 |   |                            |                       |         |
| 01/01/90        | 06/30/90    | 3.48   |                            | 4.84                                 |   |                            |                       |         |
| 07/01/90        | 12/31/90    | 3.48   |                            | 4.83                                 |   |                            |                       |         |
| 01/01/91        | 06/30/91    | 3.48   |                            | 4.77                                 |   |                            |                       |         |
| 07/01/91        | 11/27/91    | 3.49   |                            | 4.74                                 |   |                            |                       |         |
| 11/28/91        | 06/30/92    | 3.49   |                            | 4.76                                 |   |                            |                       |         |
| 07/01/92        | 06/30/93    | 3.49   |                            | 4.68                                 |   |                            |                       |         |
| 07/01/93        | 06/30/94    | 3.50   |                            | 5.37                                 |   |                            |                       |         |
| 07/01/94        | 06/30/95    | 3.50   |                            | 5.45                                 |   |                            |                       |         |
| 07/01/95        | 06/30/96    | 3.50   |                            | 5.50                                 |   |                            |                       |         |
| 07/01/96        | 06/30/97    | 3.50   |                            | 5.53                                 |   |                            |                       |         |
| 07/01/97        | 12/31/97    | 3.50   |                            | 5.68                                 |   |                            |                       |         |
| 01/01/98        | 06/30/98    | 3.50   | \$4.98                     | 6.92                                 | \$0.49  | \$1.50                     | \$2.52                | \$0.35  |
| 07/01/98        | 12/31/98    | 3.50   | 4.99                       | 7.11                                 | 0.49  | 1.38                       | 2.38                  | 0.38    |
| 01/01/99        | 06/30/99    | 3.50   | 5.88                       | 7.05                                 | 0.49  | 1.38                       | 2.22                  | 0.32    |
| 07/01/99        | 12/31/99    | 3.50   | 5.84                       | 6.94                                 | 0.95  | 1.77                       | 2.78                  | 0.42    |
| 01/01/00        | 06/30/00    | 3.50   | 5.81                       | 6.94                                 | 0.92  | 1.70                       | 2.44                  | 0.35    |
| 08/11/00        | 06/30/01 4/ | 4.28   | 5.99                       | 6.88                                 | 0.00  | 0.00                       | 2.30                  | 0.37    |
| 07/01/01        | 12/31/01    | 4.78   | 5.93                       | 6.66                                 | 0.00  | 0.00                       | 1.35                  | 0.22    |

1/ This table shows average rates (weighted by access lines) for all local exchange carriers (LECs) that file access tariffs subject to price-cap regulation and all LECs in the National Exchange Carrier Association (NECA) pool.

2/ Prior to 1/01/98, carriers did not charge separate subscriber line charge (SLC) rates for primary and non-primary residential lines. Therefore, the residential and single-line business average SLCs reported prior to 1/01/98 include all residential SLC charges. The average residential and single-line business SLC rate as of 1/01/98 excludes non-primary residential SLCs. Non-primary SLCs are now reported separately, except for the LECs in the NECA pool, which continue to charge a single residential SLC. Under price-cap regulation, as of July 1, 2001, the caps on SLCs for primary residential and single-line business, non-primary residential, and multiline business and Centrex lines equal \$5.00, \$7.00, and \$9.20, respectively. For NECA pool companies, the residential SLC cap is \$3.50, while the multiline business and Centrex SLC cap equals \$6.00.

3/ On 1/01/98, price-cap carriers began to charge presubscribed interexchange carrier charges (PICCs). The reported PICCs are averages per line including both price-cap and NECA pool lines. While carriers did not charge different rates for Centrex and multiline business SLCs, they did charge different PICC rates for these lines. Therefore, the average multiline business and Centrex PICC rates are reported separately. However, multiline business line counts, used to compute average PICC rates, include Centrex lines for LECs in the NECA pool, which do not charge PICCs or distinguish in access filings between the two line types. On 7/01/00, price-cap carriers stopped charging residential and single-line business PICCs. Therefore, under price-cap regulation, as of July 1, 2000, the caps on PICCs for multiline business lines equal \$4.31. Centrex groups of 9 or fewer lines are capped at the multiline business PICC rate of \$4.31 per group. Centrex groups with more than 9 lines are capped at \$0.48 per line (1/9th the multiline business rate).

4/ Although the charges took effect on July 1, 2000, some companies made adjustments to the tariffs which did not take effect until August 11, 2000.

Source: Industry Analysis Division, *Monitoring Report* and access tariff filings.

**Table 1.2**  
**Interstate Per-Minute Access Charges**  
**(National Average in Cents per Minute) 1/**

| Rates in Effect |          | Interstate Charges for Switched Access Service       |  |                                       |  |   |
|-----------------|----------|--|--|---------------------------------------|--|---|
| From            | To       | Carrier Common Line per Originating Access Minute 1/ | Carrier Common Line per Terminating Access Minute 1/ | Traffic Sensitive per Switched Minute | Non-Traffic Sensitive per Switched Minute 2/ | Total Charge per Conversation Minute 3/ |
| 05/26/84        | 01/14/85 | 5.24 ¢   | 5.24 ¢   | 3.10 ¢                                |  | 17.26 ¢                                 |
| 01/15/85        | 05/31/85 | 5.43   | 5.43   | 3.10                                  |  | 17.66                                   |
| 06/01/85        | 09/30/85 | 4.71   | 4.71   | 3.10                                  |  | 16.17                                   |
| 10/01/85        | 05/31/86 | 4.33   | 4.33   | 3.10                                  |  | 15.38                                   |
| 06/01/86        | 12/31/86 | 3.04   | 4.33   | 3.10                                  |  | 14.00                                   |
| 01/01/87        | 06/30/87 | 1.55   | 4.33   | 3.10                                  |  | 12.41                                   |
| 07/01/87        | 12/31/87 | 0.69   | 4.33   | 3.10                                  |  | 11.49                                   |
| 01/01/88        | 11/30/88 | 0.00   | 4.14   | 3.10                                  |  | 10.56                                   |
| 12/01/88        | 02/14/89 | 0.00   | 3.39   | 3.00                                  |  | 9.60                                    |
| 02/15/89        | 03/31/89 | 0.00   | 3.25   | 3.00                                  |  | 9.46                                    |
| 04/01/89        | 12/31/89 | 1.00   | 1.83   | 3.00                                  |  | 9.11                                    |
| 01/01/90        | 06/30/90 | 1.00   | 1.53   | 2.50                                  |  | 7.78                                    |
| 07/01/90        | 12/31/90 | 1.00   | 1.23   | 2.50                                  |  | 7.48                                    |
| 01/01/91        | 06/30/91 | 1.00   | 1.14   | 2.40                                  |  | 7.18                                    |
| 07/01/91        | 06/30/92 | 0.88   | 1.06   | 2.40                                  |  | 6.97                                    |
| 07/01/92        | 06/30/93 | 0.79   | 0.95   | 2.40                                  |  | 6.76                                    |
| 07/01/93        | 06/30/94 | 0.88   | 1.16   | 2.20                                  |  | 6.66                                    |
| 07/01/94        | 06/30/95 | 0.84   | 1.08   | 2.10                                  | 0.28 ¢                                       | 6.89                                    |
| 07/01/95        | 06/30/96 | 0.74   | 0.89   | 1.96                                  | 0.21   | 6.16                                    |
| 07/01/96        | 06/30/97 | 0.72   | 0.89   | 1.95                                  | 0.17   | 6.04                                    |
| 07/01/97        | 12/31/97 | 0.64   | 0.84   | 1.63                                  | 0.14   | 5.18                                    |
| 01/01/98        | 06/30/98 | 0.68   | 0.23   | 1.29                                  | 0.21   | 4.04                                    |
| 07/01/98        | 12/31/98 | 0.91   | 0.20   | 0.99                                  | 0.30   | 3.82                                    |
| 01/01/99        | 06/30/99 | 0.82   | 0.16   | 0.98                                  | 0.32   | 3.71                                    |
| 07/01/99        | 12/31/99 | 0.37   | 0.10   | 0.86                                  | 0.28   | 2.82                                    |
| 01/01/00        | 06/30/00 | 0.32   | 0.10   | 0.86                                  | 0.31   | 2.85                                    |
| 08/11/00        | 06/31/00 | 4/ 0.23  | 0.07   | 0.52                                  | 0.26   | 1.91                                    |
| 07/01/01        | 12/31/02 | 0.15   | 0.07   | 0.48                                  | 0.24   | 1.71                                    |

1/ This table shows average rates (weighted by minutes of use) for all local exchange carriers (LECs) that file access tariffs subject to price-cap regulation and all LECs in the National Exchange Carrier Association (NECA) pool. The average rates reported here do not include the average revenue per minute from subscriber line charges (SLCs) or primary interexchange carrier charges (PICCs), both of which are reported in Table 1.1.

2/ Non-traffic-sensitive charges include charges assessed on a per-month, per-unit basis. Prior to 07/01/94, these charges were included in the average traffic-sensitive rates.

3/ The total charge per conversation minute consists of charges on the originating end of the call, which are adjusted for dialing and call setup time, plus charges on the terminating end. Originating charges per conversation minute equal the carrier common line charge per originating access minute plus the traffic-sensitive charge per switched minute, both multiplied by 1.07 to account for dialing and call setup time, plus the non-traffic-sensitive charge per switched minute. Terminating charges per conversation minute equal carrier common line charges per terminating access minute plus both traffic-sensitive and non-traffic-sensitive charges per switched minute.

4/ Although the charges took effect on July 1, 2000, some companies made adjustments to the tariffs which did not take effect until August 11, 2000.

Source: Industry Analysis Division, *Monitoring Report* and access tariff filings.

**Table 1.3**  
**Interstate Per-Line Access Charges by Carrier**  
(In Dollars per Month per Line) 1/

| Company             | Rates Effective from 07/01/01 to 12/31/01 |                         |                                |   |                         |                    |         | 2000 Average Monthly Access Lines 2/<br>(Thousands) |                         |                                |
|---------------------|---|-------------------------|--------------------------------|---|-------------------------|--------------------|---------|---|-------------------------|--------------------------------|
|                     | Subscriber Line Charges                   |                         |                                | Presubscribed Interexchange Carrier Charges |                         |                    |         |   |                         |                                |
|                     | Residential and Single-Line Business      | Non-Primary Residential | Multiline Business and Centrex | Residential and Single-Line Business        | Non-Primary Residential | Multiline Business | Centrex | Residential and Single-Line Business                | Non-Primary Residential | Multiline Business and Centrex |
| BellSouth           | \$5.00                                    | \$6.95                  | \$7.84                         | 0.00  | 0.00                    | \$2.94             | \$0.32  | 15,105  | 2,615                   | 6,675                          |
| Cincinnati Bell     | 5.00                                      | 6.07                    | 5.32                           | 0.00  | 0.00                    | 0.00               | 0.00    | 653   | 86                      | 293                            |
| Citizens            | 4.97                                      | 6.80                    | 8.56                           | 0.00  | 0.00                    | 2.90               | 0.46    | 1,379   | 111                     | 407                            |
| Global Crossing     | 4.71                                      | 5.91                    | 8.03                           | 0.00  | 0.00                    | 1.02               | 0.28    | 644   | 93                      | 264                            |
| Iowa Telecom        | 5.00                                      | 7.00                    | 9.20                           | 0.00  | 0.00                    | 4.31               | 0.59    | 99  | 5                       | 19                             |
| Qwest               | 4.97                                      | 6.53                    | 7.87                           | 0.00  | 0.00                    | 0.69               | 0.18    | 10,031  | 1,864                   | 4,763                          |
| SBC                 | 4.75                                      | 4.84                    | 5.21                           | 0.00  | 0.00                    | 0.19               | 0.04    | 30,776  | 6,991                   | 18,550                         |
| Sprint              | 4.91                                      | 6.38                    | 7.95                           | 0.00  | 0.00                    | 2.37               | 0.44    | 5,281   | 828                     | 1,850                          |
| Verizon             | 4.99                                      | 6.39                    | 7.37                           | 0.00  | 0.00                    | 2.19               | 0.56    | 33,959  | 7,059                   | 16,595                         |
| Price Caps          | 4.91                                      | 5.93                    | 6.69                           | 0.00  | 0.00                    | 1.41               | 0.22    | 97,927  | 19,652                  | 49,416                         |
| NECA                | 3.50                                      | NA                      | 5.97                           | NA  | NA                      | 0.00               | NA      | 9,642   | NA                      | 2,163                          |
| Price Caps and NECA | \$4.78                                    | \$5.93                  | \$6.66                         | \$0.00                                      | \$0.00                  | \$1.35             | \$0.22  | 107,569   | 19,652                  | 51,579                         |

NA - Not Available.

1/ This table shows average rates (weighted by access lines) for all local exchange carriers (LECs) that file access tariffs subject to price-cap regulation and all LECs in the National Exchange Carrier Association (NECA) pool. Rates are composites of all regions and subsidiaries of each local exchange carrier. No information is available for those carriers that are not in the NECA pool, but are subject to rate-of-return regulation.

2/ Access line counts measure lines that companies report as qualified to receive subscriber line charges (SLCs). ISDN-BRI lines, which are charged non-primary SLC and PICC rates, are included in the non-primary residential line counts. ISDN-PRI lines, which are charged rates equal to five times the multiline business SLC and PICC rates, are multiplied by five and added to multiline business counts.

Source: Access tariff filings.

**Table 1.4**  
**Interstate Per-Minute Access Charges by Carrier**  
**(In Cents per Minute) 1/**

| Company                 | Rates Effective from 7/1/01-12/31/01              |   |  |   |   | Year 2000 Minutes of Use |                 |                 |
|-------------------------|---|---|--|---|---|--------------------------|-----------------|-----------------|
|                         | Carrier Common Line per Originating Access Minute | Carrier Common Line per Terminating Access Minute | Switched Traffic Sensitive per Access Minute | Switched Non-Traffic Sensitive per Access Minute 2/ | Total Charge per Conversation Minute 3/ | (Millions)               |                 |                 |
|                         |   |   |  |   |   | CCL Originating          | CCL Terminating | Local Switching |
| BellSouth               | 0.00 ¢  | 0.00 ¢  | 0.36 ¢                                       | 0.18 ¢  | 1.10 ¢                                  | 27,845                   | 57,012          | 83,187          |
| Cincinnati Bell         | 0.00  | 0.00  | 0.51   | 0.21  | 1.49                                    | 1,042                    | 2,162           | 3,215           |
| Citizens                | 0.57  | 0.00  | 0.87   | 0.65  | 3.69                                    | 2,747                    | 2,865           | 5,680           |
| Global Crossing         | 0.05  | 0.00  | 0.61   | 0.41  | 2.15                                    | 575                      | 1,583           | 2,160           |
| Iowa Telecom            | 0.81  | 0.00  | 0.84   | 0.15  | 2.90                                    | 134                      | 185             | 331             |
| Qwest                   | 0.00  | 0.00  | 0.54   | 0.18  | 1.47                                    | 21,018                   | 39,686          | 61,107          |
| SBC                     | 0.00  | 0.00  | 0.43   | 0.21  | 1.30                                    | 64,610                   | 92,623          | 158,985         |
| Sprint                  | 0.03  | 0.00  | 0.63   | 0.17  | 1.68                                    | 10,375                   | 15,681          | 26,235          |
| Verizon                 | 0.20  | 0.00  | 0.44   | 0.21  | 1.54                                    | 58,300                   | 131,143         | 190,087         |
| Price Caps              | 0.07  | 0.00  | 0.45   | 0.21  | 1.42                                    | 186,646                  | 342,940         | 530,987         |
| NECA                    | 1.00  | 1.40  | 1.59   | 1.43  | 8.62                                    | 16,085                   | 17,824          | 17,354          |
| All Price Caps and NECA | 0.15 ¢  | 0.07 ¢  | 0.48 ¢                                       | 0.24 ¢  | 1.71 ¢                                  | 202,731                  | 360,764         | 548,341         |

1/ This table shows average rates (weighted by minutes of use) for all local exchange carriers (LECs) that file access tariffs subject to price-cap regulation and all LECs in the National Exchange Carrier Association (NECA) pool. Rates are composites of all regions and subsidiaries of each local exchange carrier. No information is available for those carriers that are not in the NECA pool, but are subject to rate-of-return regulation. The average rates reported here do not include the average revenue per minute from subscriber line charges (SLCs) or primary interexchange carrier charges (PICCs), both of which are reported in Table 1.1.

2/ Non-traffic sensitive charges include charges assessed on a per-month, per-unit basis. Prior to 07/01/94 these charges were included in the average traffic-sensitive rates.

3/ The total charge per conversation minute consists of charges on the originating end of the call, which are adjusted for dialing and call setup time, plus charges on the terminating end. Originating charges per conversation minute equal the carrier common line charge per originating access minute plus the traffic-sensitive charge per switched minute, both multiplied by 1.07 to account for dialing and call setup time, plus the non-traffic-sensitive charge per switched minute. Terminating charges per conversation minute equal carrier common line charges per terminating access minute plus both traffic-sensitive and non-traffic-sensitive charges per switched minute.

Source: Access tariff filings.

## 2 Advanced Telecommunications

Congress directed the Commission and the states, in section 706 of the Telecommunications Act of 1996, to encourage deployment of advanced telecommunications capability in the United States on a reasonable and timely basis. To assist in its evaluation of such deployment, the Commission launched a formal data collection program (FCC Form 477) to gather standardized information about subscribership to high-speed services, including advanced services, from wireline telephone companies, cable TV companies, terrestrial wireless providers, satellite providers, and any other facilities-based providers of advanced telecommunications capability.

A facilities-based provider of high-speed service lines (or wireless channels) in a given state reports to the Commission basic information about its service offerings and customers if the provider has at least 250 such lines in service in that state. While providers not meeting the reporting threshold may provide information on a voluntary basis, as some have done, we have no assurance that all such providers have reported data.

Table 2.1 shows high-speed lines (over 200 kbps in at least one direction) for the following types of technology: Asymmetric digital subscriber lines (ADSL), wireline other than ADSL, coaxial cable, fiber, and satellite and fixed wireless. ADSL technologies provide speed in one direction greater than speed in the other direction. Wireline technologies other than ADSL include traditional telephone company high-speed services and symmetric DSL services that provide equivalent functionality. Coaxial cable includes the typical hybrid fiber-coax (HFC) architecture of upgraded cable TV systems. Optical fiber technologies are fiber to the subscriber's premises (e.g., fiber-to-the-home, or FTTH). Satellite and fixed terrestrial wireless systems use radio spectrum to communicate with a radio transmitter attached to the subscriber's premises.

Table 2.2. shows advanced services lines (over 200 kbps in both directions) by the above technologies and Table 2.3 shows residential and small business high-speed lines (over 200 kbps in at least one direction) for the above technologies. Table 2.4 shows high-speed lines by state for the above technologies.



**Table 2.1**  
**High-Speed Lines**  
**(Over 200 kbps in at Least One Direction)**

| Types of Technology 1/     | December 1999 | June 2000 2/ | December 2000 | Percent Change        |                        |
|----------------------------|---------------|--------------|---------------|-----------------------|------------------------|
|                            |               |              |               | Dec 1999-<br>Dec 2000 | June 2000-<br>Dec 2000 |
| ADSL                       | 369,792       | 951,583      | 1,977,377     | 435 %                 | 108 %                  |
| Other Wireline             | 609,909       | 764,099      | 1,063,563     | 74                    | 39                     |
| Coaxial Cable              | 1,414,183     | 2,284,491    | 3,576,378     | 153                   | 57                     |
| Fiber                      | 312,204       | 307,151      | 376,506       | NM                    | NM                     |
| Satellite & Fixed Wireless | 50,404        | 65,615       | 112,405       | NM                    | NM                     |
| Total Lines                | 2,756,492     | 4,372,939    | 7,106,229     | 158 %                 | 63 %                   |

**Table 2.2**  
**Advanced Services Lines**  
**(Over 200 kbps in Both Directions)**

| Types of Technology 1/     | December 1999 | June 2000 2/ | December 2000 | Percent Change        |                        |
|----------------------------|---------------|--------------|---------------|-----------------------|------------------------|
|                            |               |              |               | Dec 1999-<br>Dec 2000 | June 2000-<br>Dec 2000 |
| ADSL                       | 185,950       | 326,816      | 675,642       | 263 %                 | 107 %                  |
| Other Wireline             | 609,909       | 764,099      | 1,063,563     | 74                    | 39                     |
| Coaxial Cable              | 879,671       | 1,469,130    | 2,194,002     | 149                   | 49                     |
| Fiber                      | 307,315       | 301,143      | 376,417       | NM                    | NM                     |
| Satellite & Fixed Wireless | 7,816         | 3,649        | 26,906        | NM                    | NM                     |
| Total Lines                | 1,990,662     | 2,864,838    | 4,336,530     | 118 %                 | 51 %                   |

**Table 2.3**  
**Residential and Small Business High-Speed Lines**  
**(Over 200 kbps in at Least One Direction)**

| Types of Technology 1/     | December 1999 | June 2000 2/ | December 2000 | Percent Change        |                        |
|----------------------------|---------------|--------------|---------------|-----------------------|------------------------|
|                            |               |              |               | Dec 1999-<br>Dec 2000 | June 2000-<br>Dec 2000 |
| ADSL                       | 291,757       | 772,272      | 1,595,155     | 447 %                 | 107 %                  |
| Other Wireline             | 46,856        | 116,995      | 218,641       | 367                   | 87                     |
| Coaxial Cable              | 1,404,600     | 2,215,259    | 3,288,034     | 134                   | 48                     |
| Fiber                      | 1,023         | 325          | 1,994         | NM                    | NM                     |
| Satellite & Fixed Wireless | 50,404        | 64,320       | 102,432       | NM                    | NM                     |
| Total Lines                | 1,794,640     | 3,169,170    | 5,206,257     | 190 %                 | 64 %                   |

NM - Not meaningful due to inconsistencies in reported data.

1/ The mutually exclusive types of technology are, respectively: Asymmetric digital subscriber line (ADSL) technologies, which provide speeds in one direction greater than speeds in the other direction; wireline technologies "other" than ADSL, including traditional telephone company high-speed services and symmetric DSL services that provide equivalent functionality; coaxial cable, including the typical hybrid fiber-coax (HFC) architecture of upgraded cable TV systems; optical fiber to the subscriber's premises (e.g., Fiber-to-the-Home, or FTTH); and satellite and (terrestrial) fixed wireless systems, which use radio spectrum to communicate with a radio transmitter at the subscriber's premises.

2/ Data for June 2000 have been revised.

Source: Form 477 Filings.



**Table 2.4**  
**High-Speed Lines by Technology**  
**(Over 200 kbps in at Least One Direction)**

|                           | December 1999 | June 2000 | December 2000 |               |           |           | Percentage Change     |                        |
|---------------------------|---------------|-----------|---------------|---------------|-----------|-----------|-----------------------|------------------------|
|                           | Total         | Total     | ADSL          | Coaxial Cable | Other 1/  | Total     | Dec 1999-<br>Dec 2000 | June 2000-<br>Dec 2000 |
| Alabama                   | 19,796        | 32,756    | 12,320        | 36,432        | 14,582    | 63,334    | 220 %                 | 93 %                   |
| Alaska                    | 0             | *         | 0             | 0             | 934       | 934       | NA                    | NA                     |
| Arizona                   | 58,825        | 111,678   | 32,395        | *             | *         | 153,500   | 161                   | 37                     |
| Arkansas                  | 8,155         | 15,539    | *             | *             | *         | 28,968    | 255                   | 86                     |
| California                | 547,179       | 910,006   | 622,894       | 476,544       | 287,187   | 1,386,625 | 153                   | 52                     |
| Colorado                  | 36,726        | 64,033    | 42,810        | *             | *         | 104,534   | 185                   | 63                     |
| Connecticut               | 36,488        | 63,772    | 22,348        | 78,234        | 11,210    | 111,792   | 206                   | 75                     |
| Delaware                  | 1,558         | 3,660     | *             | *             | *         | 7,492     | 381                   | 105                    |
| District of Columbia      | 13,288        | 16,926    | *             | *             | 13,627    | 27,757    | 109                   | 64                     |
| Florida                   | 190,700       | 244,678   | 115,133       | 255,978       | 89,684    | 460,795   | 142                   | 88                     |
| Georgia                   | 75,870        | 130,292   | 56,588        | 75,474        | 71,793    | 203,855   | 169                   | 56                     |
| Hawaii                    | *             | *         | *             | *             | *         | *         | NA                    | NA                     |
| Idaho                     | *             | 8,070     | *             | *             | *         | 15,908    | NA                    | 97                     |
| Illinois                  | 77,672        | 166,933   | 48,278        | 126,490       | 67,471    | 242,239   | 212                   | 45                     |
| Indiana                   | 20,059        | 49,702    | 6,442         | 37,052        | 17,000    | 60,494    | 202                   | 22                     |
| Iowa                      | 19,258        | 49,159    | *             | 48,008        | *         | 58,199    | 202                   | 18                     |
| Kansas                    | 26,179        | 42,679    | 14,281        | 48,541        | 5,921     | 68,743    | 163                   | 61                     |
| Kentucky                  | 23,570        | 24,237    | 16,327        | *             | *         | 32,731    | 39                    | 35                     |
| Louisiana                 | 28,133        | 43,294    | 22,788        | *             | *         | 74,950    | 166                   | 73                     |
| Maine                     | 19,878        | 17,864    | *             | *             | *         | 26,266    | 32                    | 47                     |
| Maryland                  | 52,749        | 71,005    | *             | 65,668        | *         | 124,465   | 136                   | 75                     |
| Massachusetts             | 114,116       | 185,365   | 53,700        | 210,019       | 25,728    | 289,447   | 154                   | 56                     |
| Michigan                  | 81,223        | 135,318   | 25,482        | 130,296       | 42,452    | 198,230   | 144                   | 46                     |
| Minnesota                 | 38,268        | 65,272    | 40,870        | 64,215        | 12,809    | 117,894   | 208                   | 81                     |
| Mississippi               | *             | 6,514     | *             | *             | *         | 12,305    | NA                    | 89                     |
| Missouri                  | 23,347        | 46,903    | 38,759        | 42,255        | 19,389    | 100,403   | 330                   | 114                    |
| Montana                   | *             | *         | 1,760         | *             | *         | 7,378     | NA                    | NA                     |
| Nebraska                  | 36,748        | 44,188    | *             | *             | 4,729     | 54,085    | 47                    | 22                     |
| Nevada                    | 23,514        | 40,582    | 10,023        | *             | *         | 59,879    | 155                   | 48                     |
| New Hampshire             | 22,807        | 33,045    | 3,339         | *             | *         | 42,364    | 86                    | 28                     |
| New Jersey                | 101,832       | 144,203   | 59,332        | *             | *         | 285,311   | 180                   | 98                     |
| New Mexico                | *             | 2,929     | *             | *             | 21,207    | 28,497    | NA                    | 873                    |
| New York                  | 186,504       | 342,743   | 124,146       | 377,521       | 101,820   | 603,487   | 224                   | 76                     |
| North Carolina            | 57,881        | 81,998    | 24,091        | 73,092        | 39,798    | 136,981   | 137                   | 67                     |
| North Dakota              | *             | 3,467     | *             | *             | 2,723     | 6,380     | NA                    | 84                     |
| Ohio                      | 160,792       | 156,980   | 55,046        | 121,196       | 47,603    | 223,845   | 39                    | 43                     |
| Oklahoma                  | *             | 163,703   | *             | *             | 67,511    | 95,138    | NA                    | -42                    |
| Oregon                    | 27,062        | 44,186    | 31,644        | *             | *         | 76,839    | 184                   | 74                     |
| Pennsylvania              | 71,926        | 79,892    | 60,083        | 85,104        | 31,483    | 176,670   | 146                   | 121                    |
| Puerto Rico               | *             | *         | 0             | 0             | *         | *         | NA                    | NA                     |
| Rhode Island              | *             | 20,628    | *             | *             | *         | 30,919    | NA                    | 50                     |
| South Carolina            | 25,229        | 32,824    | 5,168         | 44,812        | 13,934    | 63,914    | 153                   | 95                     |
| South Dakota              | *             | 7,991     | *             | *             | 10,264    | 11,799    | NA                    | 48                     |
| Tennessee                 | 66,307        | 87,317    | 13,705        | 77,760        | 31,016    | 122,481   | 85                    | 40                     |
| Texas                     | 152,518       | 276,087   | 158,513       | 227,070       | 136,955   | 522,538   | 243                   | 89                     |
| Utah                      | 11,635        | 19,612    | 17,352        | *             | *         | 35,970    | 209                   | 83                     |
| Vermont                   | *             | 1,551     | *             | *             | *         | 7,773     | NA                    | 401                    |
| Virgin Islands            | 0             | 0         | 0             | 0             | *         | *         | NA                    | NA                     |
| Virginia                  | 51,305        | 72,436    | 26,750        | 78,585        | 34,580    | 139,915   | 173                   | 93                     |
| Washington                | 71,930        | 118,723   | 79,130        | *             | *         | 195,628   | 172                   | 65                     |
| West Virginia             | *             | 1,835     | *             | *             | 1,517     | 6,498     | NA                    | 254                    |
| Wisconsin                 | 18,599        | 34,262    | 8,623         | *             | *         | 76,257    | 310                   | 123                    |
| Wyoming                   | *             | *         | *             | *             | *         | *         | NA                    | NA                     |
| Nationwide Reported Total | 2,756,492     | 4,372,939 | 1,977,377     | 3,576,378     | 1,552,474 | 7,106,229 | 158 %                 | 63 %                   |

NA - Not Available.

\* Data withheld to maintain firm confidentiality.

1/ Other includes wireline technologies other than asymmetric digital subscriber line (ADSL), optical fiber to the subscriber's premises, satellite, and (terrestrial) fixed wireless systems.

Source: Industry Analysis Division, *High-Speed Services for Internet Access: Subscriberhip as of December 31, 2001*.

### **3 Consumer Expenditures**

The Bureau of Labor Statistics conducts surveys of consumer expenditures, in part, to develop weights for CPI indices. Table 3.1 shows expenditures for telephone service for all consumer units.

About 2% of all consumer expenditures are devoted to telephone service. This percentage has remained virtually unchanged over the past 15 years, despite major changes in the telephone industry and in telephone usage. Average annual expenditures on telephone service increased from \$325 per household in 1980 to \$849 in 1999.

Bill harvesting data collected by TNS Telecoms, provide information on the telecommunications expenditures of households. Expenditures can be classified by the type of carrier providing the service. Table 3.2 presents average monthly household expenditures for local exchange, long distance and wireless carriers for 1995 through 2000. Further information on TNS Telecoms and the bill harvesting data can be found in Section 15.

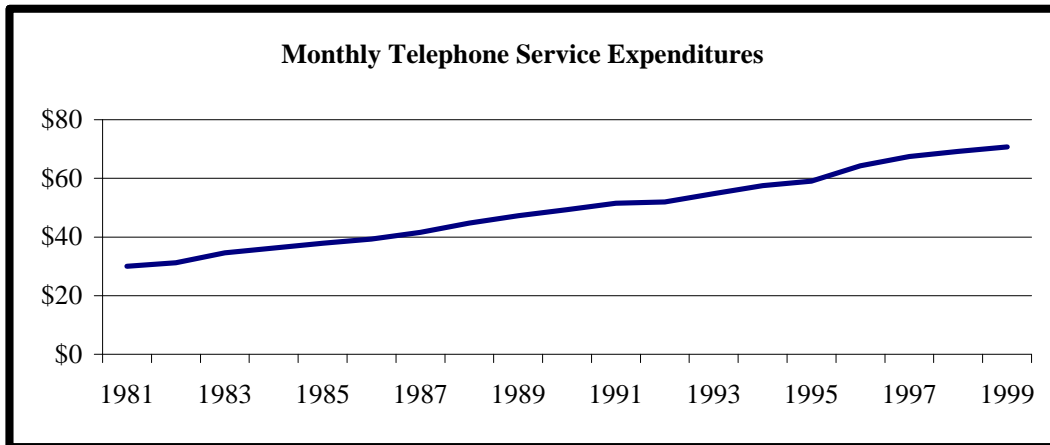


**Table 3.1**  
**Household Expenditures for Telephone Service**

| Year | Annual Expenditures for All Households |                        | Telephone Expenditures as a Percent of All Expenditures |
|------|--|------------------------|---|
|      | All Expenditures                       | Telephone Expenditures |   |
| 1981 | \$17,558                               | \$360                  | 2.1 %   |
| 1982 | 18,071                                 | 375                    | 2.1   |
| 1983 | 19,692                                 | 415                    | 2.1   |
| 1984 | 21,975                                 | 435                    | 2.0   |
| 1985 | 23,490                                 | 455                    | 1.9   |
| 1986 | 23,866                                 | 471                    | 2.0   |
| 1987 | 24,414                                 | 499                    | 2.0   |
| 1988 | 25,892                                 | 537                    | 2.1   |
| 1989 | 27,810                                 | 567                    | 2.0   |
| 1990 | 28,381                                 | 592                    | 2.1   |
| 1991 | 29,614                                 | 618                    | 2.1   |
| 1992 | 29,846                                 | 623                    | 2.1   |
| 1993 | 30,692                                 | 658                    | 2.1   |
| 1994 | 31,731                                 | 690                    | 2.2   |
| 1995 | 32,264                                 | 708                    | 2.2   |
| 1996 | 33,797                                 | 772                    | 2.3   |
| 1997 | 34,819                                 | 809                    | 2.3   |
| 1998 | 35,535                                 | 830                    | 2.3   |
| 1999 | 36,995                                 | 849                    | 2.3   |

Source: Consumer Expenditure Survey, Bureau of Labor Statistics.

**Chart 3.1**



**Table 3.2**  
**Average Monthly Household Telecommunications Expenditures by Type of Provider 1/ 2/**

|             | <b>Local Exchange Carriers 3/</b> | <b>Long Distance Carriers</b> | <b>Wireless Carriers</b> | <b>Total</b> |
|-------------|-----------------------------------|-------------------------------|--------------------------|--------------|
| <b>1995</b> | \$30                              | \$21                          | \$5                      | \$56         |
| <b>1996</b> | 30                                | 21                            | 7                        | 58           |
| <b>1997</b> | 32                                | 25                            | 8                        | 65           |
| <b>1998</b> | 33                                | 23                            | 10                       | 66           |
| <b>1999</b> | 34                                | 21                            | 9                        | 64           |
| <b>2000</b> | 35                                | 18                            | 11                       | 63           |

1/ Household payments to long distance and wireless carriers are based on monthly household bills for those households with wireline telephone service.

2/ This sample does not include households from Alaska and Hawaii.

3/ Includes incumbent local exchange carriers and competitive local exchange carriers. Does not include DSL or other high-speed services.

Source: Calculated by IAD staff with data provided by TNS Telecoms (formerly PNR and Associates), *Telecoms Market Monitor*<sup>TM</sup>.

## 4 Earnings

Beginning in the mid-1980s, local exchange carriers that file access tariffs with the Commission were required to file rate of return reports (FCC Form 492). The first reports were filed for the monitoring period October 1, 1985 - December 31, 1986. Carriers filed reports for each subsequent two-year monitoring period (1987-88 and 1989-90).

In 1991, carriers that became subject to price-cap incentive regulation began filing reports on a yearly basis. Non-price-cap carriers continued to file reports for each two-year monitoring period (1991-1992, 1993-1994, 1995-1996, 1997-1998, and 1999-2000) as well as annual reports for 1991, 1993, 1995, 1997, and 1999. Rate-of-return reports were previously required for AT&T but have been discontinued. Table 4.1 is a summary of rates of return for 1991-2000 for price-cap carriers.

The rates of return were posted at the time of the carrier's individual Form 492 filings. They do not reflect revisions filed by the carriers at a later date. Thus, they are not necessarily the official versions for regulatory purposes, but they do illustrate general industry trends. Copies of the individual carrier's Form 492 reports are on file in the FCC's Reference Information Center, Courtyard Level, 445 12th Street S.W., Washington, D.C.



**Table 4.1**  
**Interstate Rate-of-Return Summary \***  
**Years 1991 Through 2000**  
**Price-Cap Companies Reporting FCC Form 492A**  
**(Final Reports for 1991 Through 1999 and Initial Report for 2000)**

| Reporting Entity  | 1991    | 1992    | 1993    | 1994    | 1995    | 1996    | 1997    | 1998    | 1999    | 2000    |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| AT&T Communications 1/  | 13.40 % | 12.77 % | 13.49 % | 13.26 % |         |         |         |         |         |         |
| 1 BellSouth Telephone Companies   | 12.62   | 12.80   | 13.68   | 15.92   | 15.78 % | 16.40 % | 17.91 % | 20.80 % | 20.99 % | 22.61 % |
| 2 Qwest Corporation, Including Malheur and El Paso 2/ 3/                              | 12.40   | 12.41   | 13.62   | 12.40   | 12.00   | 13.64   | 15.41   | 16.56   | 19.06   | 19.78   |
| SBC Communications, Inc. 4/   |         |         |         |         |         |         |         |         |         |         |
| 3 Southwestern Bell Telephone Company 5/  | 10.75   | 11.80   | 12.91   | 13.01   | 13.38   | 11.63   | 10.32   | 9.91    | 10.22   | 14.56   |
| 4 Ameritech Operating Companies 5/  | 13.00   | 12.79   | 14.80   | 13.39   | 16.78   | 18.27   | 18.22   | 22.59   | 28.93   | 29.71   |
| 5 Nevada Bell 5/  | 12.98   | 14.51   | 17.44   | 17.92   | 17.31   | 17.75   | 19.47   | 16.02   | 19.26   | 22.07   |
| 6 Pacific Bell 5/   | 11.85   | 12.68   | 12.89   | 14.93   | 15.76   | 17.68   | 11.98   | 16.50   | 21.01   | 19.30   |
| 7 Southern New England Telephone Company 5/   | 8.56    | 12.90   | 11.52   | 11.34   | 11.58   | 11.64   | 12.70   | 10.99   | 12.12   | 23.91   |
| Verizon Companies 6/  |         |         |         |         |         |         |         |         |         |         |
| 8 Bell Atlantic dba Verizon Communications 7/ (Former Bell Atlantic Companies)        |         |         |         |         |         |         |         |         | 13.66   | 13.36   |
| Bell Atlantic   | 12.83   | 12.50   | 14.01   | 14.00   | 13.74   | 11.24   | 14.73   | 13.88   |         |         |
| Bell Atlantic (NYNEX) 8/  |         | 12.50   | 12.55   | 11.79   | 12.12   | 15.23   | 13.72   | 11.40   |         |         |
| New England Telephone and Telegraph Co. New York Telephone                            | 8.54    | 9.82    |         |         |         |         |         |         |         |         |
| (Former GTE Companies) 9/ 10/ 11/   |         |         |         |         |         |         |         |         |         |         |
| 9 GTE South Inc. (Kentucky - COKY) 12/  |         |         |         | 5.56    | 4.79    | 4.49    | 6.62    | 5.97    | 9.55    | 32.50   |
| 10 GTE South Inc. (N. Carolina - CONC) 12/  |         |         |         | 10.75   | 14.16   | 11.98   | 16.63   | 12.78   | 19.87   | 17.77   |
| GTE South Inc. (S. Carolina - COSC) 12/ 21/   |         |         |         | 9.77    | 12.32   | 17.40   | 25.09   | 26.14   |         |         |
| 11 GTE South Inc. (Virginia - COVA) 12/   |         |         |         | 23.45   | 23.18   | 30.90   | 33.65   | 35.19   | 34.74   | 40.96   |
| 12 GTE Systems of The South (Alabama - COAL) 12/ GSTC - South (East South Contel) 12/ | 9.67    | 9.90    | 15.09   | 12.58   | 11.88   | 9.69    | 15.31   | 7.97    | 10.88   | 14.96   |
| 13 GTE North Inc. (Illinois - COIL) 13/   |         |         |         | 26.48   | 24.21   | 36.34   | 41.14   | 14.11   | 41.03   | 44.39   |
| 14 GTE North Inc. (Indiana - COIN) 13/  |         |         |         | 22.44   | 23.27   | 29.02   | 33.26   | 34.61   | 41.40   | 47.71   |
| GTE Midwest Inc. (COIA + COSI = COIT) 13/   |         |         |         | 18.31   | 22.39   | 30.39   | 35.04   | 38.27   | 34.16   | 31/     |
| 15 GTE Midwest Inc. (Missouri - COMO+COCM+COEM=COMT) 13/                              |         |         |         | 10.79   | 9.57    | 11.97   | 12.39   | 12.56   | 15.29   | 17.86   |
| GTE Arkansas, Inc. (COAR+COA=COAT) 13/  |         |         |         | 17.44   | 18.24   | 19.13   | 16.13   | 15.87   | 16.81   | 14/     |
| Contel of Minnesota - COMN 13/  |         |         |         | 22.12   | 23.81   | 32.38   | 33.81   | 30.00   | 32.07   | 14/     |
| GSTC - Central (Central Contel) 13/   | 11.22   | 10.24   | 16.28   |         |         |         |         |         |         |         |
| 16 GTE North Inc. (COPA+COQS=COPT) 15/  | 12.79   | 17.11   | 22.33   | 32.60   | 36.38   | 40.55   | 36.83   | 45.97   | 39.58   | 40.98   |
| GTE Alaska, Inc. (Alaska - GTAK)  | 14.69   | 14.84   | 16.13   | 24.78   | 22.48   | 19.44   | 29.58   | 26.89   | 13.34   | 14/     |
| 17 GTE California Inc. (California - GTCA)  | 12.45   | 10.73   | 7.05    | 9.08    | 6.95    | 13.72   | 17.68   | 17.19   | 22.01   | 26.45   |
| 18 GTE California, Inc. (California - COCA) 16/                                       |         |         |         | 12.19   | 16.03   | 17.63   | 19.16   | 22.71   | 28.28   | 29.08   |
| 19 GTE California, Inc. (Arizona - COAZ) 16/  |         |         |         | 6.24    | 2.95    | 4.15    | 14.17   | 13.80   | 15.57   | 12.17   |
| 20 GTE California, Inc. (Nevada - CONV) 16/   |         |         |         | 27.39   | 19.15   | 25.50   | 31.44   | 24.01   | 20.57   | 28.79   |
| Contel of California, Inc. 16/  | 11.87   | 8.51    | 15.43   |         |         |         |         |         |         |         |
| 21 GTE Florida Inc. (Florida - GTFL)  | 12.64   | 9.52    | 7.36    | 7.36    | 8.56    | 15.17   | 19.14   | 14.58   | 18.93   | 21.81   |
| 22 GTE Hawaiian Telephone Co. Inc. (Hawaii - GTHI)                                    | 11.75   | 8.98    | 9.18    | 8.15    | 7.87    | 9.42    | 10.55   | 15.64   | 17.62   | 17.98   |
| 23 GTE North/GTE South (GTIL+GLIL=GAIL)   | 12.65   | 12.60   | 13.77   | 17.12   | 14.69   | 18.36   | 21.59   | 23.07   | 22.35   | 23.95   |
| 24 GTE North/Contel Systems of South (GTIN+GLIN=GAIN)                                 | 14.16   | 14.17   | 14.50   | 18.21   | 18.80   | 26.23   | 23.61   | 29.06   | 32.47   | 33.87   |
| 25 GTE North/Contel Systems of South (GTMI+GLMI=GAMI)                                 | 12.89   | 14.21   | 9.82    | 11.10   | 11.45   | 14.85   | 15.33   | 13.17   | 15.75   | 16.50   |
| GTE Midwest Inc. (IOWA - GTIA) 17/  |         |         |         | 19.05   | 16.49   | 22.68   | 25.59   | 23.59   | 22.71   | 14/     |
| Contel of Minnesota - GTMN 17/  |         |         |         | (0.04)  | (10.88) | (13.13) | 4.01    | (1.33)  | 3.56    | 14/     |
| GTE North Inc. (Total IA+MN GTE) 17/  | 9.97    | 13.69   | 13.16   |         |         |         |         |         |         |         |
| 26 GTE Midwest Inc. (Missouri - GTMO)   | 13.30   | 13.99   | 13.48   | 18.20   | 17.18   | 19.84   | 17.88   | 16.08   | 11.82   | 19.32   |
| GTE Midwest Inc. (Nebraska - GTNE)  | 8.70    | 12.74   | 13.84   | 20.35   | 21.67   | 28.86   | 27.35   | 30.08   | 35.00   | 14/     |
| 27 GTE North Inc. (Ohio - GTOH)   | 10.55   | 12.91   | 12.66   | 16.90   | 17.21   | 21.20   | 24.37   | 21.83   | 21.70   | 21.86   |
| 28 GTE North Inc. (Pennsylvania - GTPA)   | 12.82   | 12.42   | 11.72   | 14.81   | 14.02   | 18.91   | 20.62   | 14.67   | 21.41   | 22.06   |
| 29 GTE North Inc. (Wisconsin - GTWI)  | 10.43   | 13.00   | 13.85   | 13.65   | 13.96   | 17.99   | 18.75   | 16.08   | 17.85   | 17.04   |
| 30 GTE Northwest Inc. (Oregon - GTOR) 18/ 20/   |         |         |         | 16.20   | 18.89   | 23.50   | 28.23   | 27.03   | 31.56   | 31.01   |
| 31 GTE Northwest Inc. (Washington- GTWA) 18/  |         |         |         | 13.67   | 15.87   | 21.60   | 24.41   | 27.33   | 32.91   | 33.40   |
| 32 GTE Northwest Inc. (West Coast CA - GNCA) 18/                                      |         |         |         | (15.37) | (16.99) | (24.03) | (25.83) | (6.85)  | (9.93)  | (8.40)  |
| GTE Northwest Inc. (Total OR+WA+NWCA GTE) 18/   | 11.83   | 10.82   | 9.90    |         |         |         |         |         |         |         |
| 33 GTE Northwest Inc. (Idaho - GTID) 19/  |         |         |         | 19.60   | 20.78   | 23.94   | 30.52   | 30.89   | 32.24   | 34.26   |
| GTE Northwest Inc. (Montana - GMTM) 19/   |         |         |         | 15.37   |         |         |         |         |         |         |
| GTE Northwest Inc. (Total ID + MT GTE) 19/  | 14.53   | 17.34   | 16.00   |         |         |         |         |         |         |         |
| 34 GTE Northwest Inc. (Washington - COWA) 20/   |         |         |         | 18.07   | 22.24   | 29.43   | 31.85   | 30.41   | 39.17   | 39.42   |
| GTE Northwest Inc. (Contel Oregon - COOR) 19/ 20/                                     |         |         |         | 9.18    |         |         |         |         |         |         |
| GTE Systems of Northwest (Northwest Contel) 20/                                       | 8.96    | 10.26   | 18.09   |         |         |         |         |         |         |         |
| 35 GTE South Inc. (Alabama - GTAL) 21/  |         |         |         | 11.83   | 11.39   | 17.68   | 23.49   | 17.59   | 22.23   | 20.48   |
| 36 GTE South Inc. (Kentucky - GTKY) 21/   |         |         |         | 10.96   | 13.89   | 18.46   | 20.57   | 22.34   | 24.03   | 22.86   |
| 37 GTE South Inc. (North Carolina - GTNC) 21/   |         |         |         | 19.02   | 14.99   | 23.83   | 24.48   | 27.92   | 24.85   | 26.43   |
| GTE South Inc. (South Carolina - GTSC) 21/  |         |         |         | 17.60   | 18.93   | 25.70   | 24.06   | 30.62   |         |         |
| 38 GTE South Inc. (GTSC+COSEC=GTST) 21/   |         |         |         |         |         |         |         |         | 30.70   | 31.70   |
| 39 GTE South Inc. (Virginia - GTVA) 21/   |         |         |         | 9.29    | 10.91   | 11.07   | 23.76   | 20.56   | 9.94    | 6.44    |
| GTE South Inc. (Total South GTE) 21/  | 11.50   | 12.61   | 11.91   |         |         |         |         |         |         |         |
| GTE Southwest Inc. (Arkansas - GTAR) 22/  |         |         |         | 0.65    | (1.57)  | (1.97)  | 3.21    | 5.17    | 4.15    | 14/     |
| GTE Southwest Inc. (New Mexico - GTNM) 22/  |         |         |         | 10.00   | 17.18   | 24.60   | 24.21   | 31.79   | 39.34   | 14/     |
| GTE Southwest Inc. (Oklahoma - GTOK) 22/  |         |         |         | 6.44    | 6.70    | 10.77   | 14.90   | 15.97   | 18.86   | 14/     |
| 40 GTE Southwest Inc. (Texas - GTTX) 22/  |         |         |         | 7.24    | 7.11    | 11.53   | 14.81   | 16.43   | 21.42   | 21.74   |
| GTE Southwest Inc. (Total Southwest GTE) 22/  | 10.22   | 11.52   | 9.00    |         |         |         |         |         |         |         |



**Table 4.1**  
**Interstate Rate-of-Return Summary \***  
**Years 1991 Through 2000**  
**Price-Cap Companies Reporting FCC Form 492A - Continued**  
**(Final Reports for 1991 Through 1999 and Initial Report for 2000)**

| Reporting Entity  | 1991    | 1992           | 1993           | 1994                   | 1995           | 1996           | 1997           | 1998           | 1999           | 2000         |
|---|---------|----------------|----------------|------------------------|----------------|----------------|----------------|----------------|----------------|--------------|
| 41 GTE Southwest Inc. (Texas - COTX) 15/<br>GTE Southwest Inc. (New Mexico - CONM) 23/<br>Contel of the West dba GTE West (Arizona only - COWZ) 23/<br>GTE West (West Contel) 23/ | 10.22   | 9.64           | 17.89          | 8.29<br>27.57<br>14.86 | 14.62<br>47.29 | 22.42<br>42.53 | 18.10<br>48.69 | 14.96<br>47.21 | 17.13<br>28.68 | 12.87<br>14/ |
| 42 Micronesia Telecomm. Corp. (N. Mariana Islands - GTMC) 24/<br>GTE New York (New York Contel) 25/<br>GSTC - North (East North Contel) 25/                                       | 10.51   | 13.81          | 17.26          | 2.53                   | 7.49           | 15.49          | 21.17          | 34.45          | 29.24          | 1.87         |
| <b>Sprint</b>   |         |                |                |                        |                |                |                |                |                |              |
| 43 Central Telephone of Nevada 26/  |         | 12.44          | 14.23          | 18.90                  | 20.46          | 20.42          | 17.07          | 17.79          | 21.15          | 19.29        |
| 44 Sprint - Florida<br>Central Telephone of Florida 26/<br>United Telephone Co. of Florida  |         | 11.44          | 14.66          | 15.93                  | 17.16          | 17.85          | 20.05          | 26.14          | 27.17          | 27.38        |
| 45 Sprint Local Telephone Cos. - Eastern (NJ & PA)  | 11.71   | 12.32          | 13.98          | 16.12                  | 14.87          | 17.42          | 17.36          | 14.59          | 20.87          | 25.62        |
| 46 Sprint Local Telephone Cos. - Midwest (MO, KS, MN, NE, WY, TX)<br>Central Telephone of Texas 26/<br>United Telephone - Midwest (MO, KS, MN, NE, WY, TX)                        | 14.57   | 15.35          | 13.92          | 17.44                  | 19.64          | 21.52          | 19.97          | 19.66          | 17.69          | 18.88        |
| 47 Sprint Local Telephone Cos. - North Carolina<br>Central Telephone of North Carolina<br>Carolina Telephone And Telegraph Company  | 11.43   | 10.14          | 11.10          | 15.39                  | 17.77          | 15.38          |                |                |                |              |
| 48 Sprint Local Telephone Cos. - Northwest  | 17.27   | 17.72          | 19.39          | 29.32                  | 34.17          | 34.55          | 30.59          | 32.54          | 31.86          | 32.77        |
| 49 Sprint Local Telephone Cos. - Southeast (TN, VA, & SC)<br>Central Telephone of Virginia 26/<br>United Telephone - Southeast (TN, VA, & SC)                                     | 13.66   | 12.91<br>13.48 | 15.55<br>13.39 | 14.30<br>19.17         | 15.87<br>19.05 | 17.46<br>20.66 | 17.62          | 15.87          | 17.50          | 23.32        |
| 50 United Telephone Co. of Indiana, Inc.  | 14.06   | 14.93          | 15.55          | 18.41                  | 20.33          | 24.30          | 26.13          | 24.19          | 28.98          | 38.21        |
| 51 United Telephone Co. of Ohio<br>Central Telephone of Illinois 26/ 27/  | 12.75   | 12.33<br>11.54 | 13.15<br>10.18 | 16.54<br>18.87         | 15.93<br>19.55 | 16.12<br>18.40 | 13.91<br>18.92 | 17.33          | 20.16          | 20.03        |
| <b>All Other Companies</b>  |         |                |                |                        |                |                |                |                |                |              |
| 52 Aliant Communications Company (ALLTEL) 28/   |         | 12.36          | 14.95          | 15.47                  | 16.09          | 14.95          | 12.27          | 15.02          | 19.27          | 12.00        |
| 53 Cincinnati Bell Telephone Company 29/  |         |                |                |                        |                |                | 20.04          | 17.81          | 25.45          | 28.95        |
| 54 Citizens Telecommunications Cos. (Tariff 1) 30/  |         |                |                |                        |                | 15.42          | 9.77           | 17.87          | 16.71          | 19.68        |
| 55 Citizens Telecommunications Cos. (Tariff 2) 30/  |         |                |                |                        |                | 13.58          | 13.25          | 14.29          | 15.74          | 24.05        |
| 56 Citizens Telecommunications Cos. (Tariff 3)  |         |                |                |                        |                |                |                |                | 15.56          | 16.12        |
| 57 Citizens Telecommunications Cos. (Tariff 4)  |         |                |                |                        |                |                |                |                |                | 30.94        |
| 58 Citizens Telecommunications Cos. (Tariff 5)  |         |                |                |                        |                |                |                |                |                | (11.23)      |
| 59 Frontier Telephone of Rochester, Inc. 31/ 32/  | 11.82   | 12.11          | 11.63          | 12.02                  | 11.87          | 10.20          | 13.19          | 18.37          | 16.77          | 18.91        |
| 60 Frontier Tier 2 Concurring Companies 32/   |         |                | 16.42          | 17.69                  | 19.32          | 26.91          | 31.93          | 45.45          | 43.42          | 38.95        |
| 61 Frontier Communications of Minnesota & Iowa 32/ 33/  | 13.71   | 13.65          | 14.99          | 19.65                  | 21.90          | 23.71          | 28.26          | 29.28          | 35.40          | 33.16        |
| 62 VALOR New Mexico #1164   |         |                |                |                        |                |                |                |                |                | 20.57        |
| 63 VALOR New Mexico #1193   |         |                |                |                        |                |                |                |                |                | 13.41        |
| 64 VALOR Oklahoma   |         |                |                |                        |                |                |                |                |                | 11.17        |
| 65 VALOR Texas  |         |                |                |                        |                |                |                |                |                | 6.70         |
| Maximum Rate of Return  | 17.27 % | 17.72 %        | 22.33 %        | 32.60 %                | 47.29 %        | 42.53 %        | 48.69 %        | 47.21 %        | 43.42 %        | 47.71 %      |
| Minimum Rate of Return  | 8.54    | 8.51           | 7.05           | (15.37)                | (16.99)        | (24.03)        | (25.83)        | (6.85)         | (9.93)         | (11.23)      |
| Weighted Arithmetic Mean  | 11.78   | 12.42          | 13.12          | 13.58                  | 14.02          | 15.15          | 15.60          | 16.52          | 18.50          | 19.53        |
| Standard Deviation  | 1.49    | 0.96           | 1.76           | 2.59                   | 3.03           | 3.64           | 3.96           | 5.13           | 5.96           | 5.99         |

\* The interstate rates of return reported by carriers on the FCC Form 492A may not necessarily agree with the interstate rates of return reported by the carriers on other Commission forms. For example, price-cap carriers also report interstate rates of return on the Commission's Automated Reporting Management Information System's (ARMIS) 43-01 report. The interstate rates of return reported by carriers on the ARMIS 43-01 include revenues and costs for non-price-cap services. In addition they exclude adjustments, if any, for the previous year's sharing obligation or low-end adjustment.

## Notes to Table 4.1

- 1/ AT&T Communications filed individual reports for 1991-1994 ninety days after end of each calendar year. The local telephone companies filed final reports for each year fifteen months after the calendar year.
- 2/ U S WEST Communications, Inc. filed a revised report June 16, 1999 to correct the state and local composite tax rate.
- 3/ The merger between Qwest Communications International, Inc. and U S WEST was effective June 30, 2000.
- 4/ Southwestern Bell Telephone Co., Nevada Bell, and Pacific Bell filed revised reports June 25, 1999 reflecting the reassignment of expenses and revenues associated with ISP-bound traffic to the intrastate jurisdiction.
- 5/ Southern New England Telephone Company merged with SBC October 1998. Nevada Bell, and Pacific Bell, and Ameritech merged with SBC October 1999.
- 6/ Verizon Communications, Inc. was formed in 2000 by the merger of Bell Atlantic Corporation and GTE Corporation.
- 7/ Bell Atlantic filed revised reports August 12, 1999 reflecting the reassignment of expenses and revenues associated with internet service provider (ISP)-bound traffic to the intrastate jurisdiction. For 1999, Bell Atlantic filed a combined report.
- 8/ In 1992, NYNEX started to file a combined report.
- 9/ It should be noted that GTE in 1993 consolidated various study areas so that some individual company reports may not be totally consistent with prior years.
- 10/ In 1994, GTE reported many study areas by state. For the GTE companies, GTE of Alaska, California, Florida, Hawaii, Illinois, Indiana, Michigan, Missouri, Nebraska, Ohio, Pennsylvania, and Wisconsin are the only study areas that appear consistent between 1993 and 1994.
- 11/ GTE companies filed revised reports May 28, 1999 to properly report the expenses associated with funding the USAC-USF.
- 12/ In 1994, GSTC - South (East South Contel) was separated and became GTE South, Inc. (Kentucky only - COKY); GTE South, Inc. (N. Carolina only - CONC); GTE South, Inc. (S. Carolina only - COSC); GTE South, Inc. (Virginia only - COVA); and GTE Systems of the South (COAL only). The property for Georgia, which had also been included in 1993, was sold and not included in 1994.
- 13/ In 1994, GSTC - Central Region (Central Contel) was separated and became GTE North, Inc. (Illinois Contel); GTE North, Inc. (Indiana Contel); GTE Midwest, Inc. (Contel Iowa COIA + COSI); GTE Midwest, Inc. (Contel Missouri - COMO + COCM + COEM); Total Contel Arkansas (COAR + COSA); and Contel of Minnesota - COMN. In 1996, Total Contel Arkansas was renamed GTE Arkansas, Inc.
- 14/ Study area was sold.
- 15/ For the GTE Contel companies, GTE Pennsylvania (Contel) and GTE Texas (Contel) are the two companies that appear consistent between 1993 and 1994. In 1995, GTE of Pennsylvania (Contel) name changed to GTE North, Inc., (COPA + COQS); and GTE Texas (Contel) name changed to GTE Southwest, Inc. (Texas Contel).
- 16/ In 1994, Contel of California, Inc., was separated and became Contel of California (California only - COCA); Contel of California (AZ only - COAZ); and Contel of Nevada (NV only - CONV). In 1996, names were changed to GTE California, Inc., (California Contel), GTE California, Inc. (Arizona Contel), and GTE California, Inc. (Nevada Contel).
- 17/ In 1994, GTE of the North, Inc. (Total IA + MN GTE) was separated and became GTE Midwest, Inc. (Iowa only - GTIA) and Contel Minnesota - GTMN.
- 18/ In 1994, GTE of the Northwest, Inc. (Total OR+WA+NWCA GTE) was separated and became GTE of the Northwest, Inc. (Oregon only - GTOR); GTE of the Northwest, Inc. (Washington only - GTWA); and West Coast Telephone Co. of California - GNCA. In 1995, GTE of the Northwest, Inc. (Contel Oregon - COOR) merged with GTE of the Northwest, Inc. (Oregon only - GTOR).
- 19/ In 1994, GTE of the Northwest, Inc. (Total ID + MT GTE) was separated and became GTE of the Northwest, Inc. (Idaho only - GTID) and GTE of the Northwest, Inc. (Montana only - GMTM). GTE of the Northwest, Inc. (Montana only - GMTM) did not file a 1995 report because its property had been sold.
- 20/ In 1994, GTE Systems of Northwest (Northwest Contel) was separated and became GTE Northwest, Inc. (Contel Oregon - COOR); and GTE Northwest, Inc. (Contel Washington only - COWA). In 1995, GTE Northwest, Inc. (Contel Oregon - COOR) merged with GTE Northwest, Inc. (Oregon only - GTOR).
- 21/ In 1994, GTE South, Inc. (Total South GTE) was separated and became GTE South, Inc. (Alabama only - GTAL); GTE South, Inc. (Kentucky only - GTKY); GTE South, Inc. (North Carolina only - GTNC); GTE South, Inc. (South Carolina only - GTSO); and GTE South, Inc. (Virginia only - GTVA). The properties for Georgia, Tennessee, and West Virginia which had been included in GTE South, Inc. in 1993, were not included in 1994 because these properties had been sold. GTSC and COSC were combined in 1999 to form GTST.
- 22/ In 1994, GTE Southwest, Inc. (Total Southwest GTE) was separated and became GTE Southwest, Inc. (Arkansas only - GTAR); GTE Southwest, Inc. (New Mexico only - GTNM); GTE Southwest, Inc. (Oklahoma only - GTOK); and GTE Southwest Inc. (Texas only - GTTX).
- 23/ In 1994, GTE West (West Contel) was separated and became Contel of the West (New Mexico only - CONM) and Contel of the West dba GTE West (Arizona only - COWZ). Utah, which had been included in 1993 was not included in 1994; their property was sold. Contel of the West dba GTE West (Arizona only - COWZ) did not file a 1995 report because its property had been sold. In 1995, Contel of the West (New Mexico only - CONM) changed its name to GTE Southwest, Inc., (Contel New Mexico).
- 24/ Micronesian Telecommunications Corp. filed a rate-of-return report for the first time in 1994.
- 25/ GTE New York (New York Contel) and GSTC - North (East North Contel) did not file in 1994 because its property was sold.

## Notes to Table 4.1 - Continued

- 26/ The Centel companies and Lincoln Telephone and Telegraph Company reported subject to price caps beginning 7/1/93. Rate of return for 1993 is for the filing period July through December. For 1992, information for these companies is from their final non-price-cap reports, filed 9/30/93 for the two-year 1992 monitoring period, 1991-1992.
- 27/ Sold to Galatin River Communications, October 31, 1998.
- 28/ In 1996, Lincoln Telephone and Telegraph Company changed its name to Aliant Communications Company.
- 29/ Cincinnati Bell Telephone Company went price-cap in 1997.
- 30/ The Citizens Telecommunications Cos. became price-cap July 1, 1996; its reporting period for 1996 is July 1 - December 31, 1996. Rates for 1996 are from the initial report.
- 31/ The Rochester Telephone Corporation (now Frontier Telephone of Rochester) and Southern New England Telephone Company reported subject to price caps beginning 7/1/91. The rate-of-return report for each is for the filing period July 1 through December 31, 1991.
- 32/ The Rochester Telephone Corporation (now Frontier Telephone of Rochester), Rochester Telephone subsidiaries and Frontier Communications of Minnesota and Iowa (name changed in 1994 from Vista Communications Co. of Minnesota and Iowa) did not have any changes to their original reports so they did not file final reports on March 31, 1995 for 1993.
- 33/ Reports for Frontier Communications of Minnesota and Iowa, formerly known as Vista Telephone Companies were filed by Rochester Telephone Company as of 7/1/92. For 1992, the rate of return is for 7/1/92-12/31/92 when they reported subject to price-cap regulation. For 1991, Vista filed a rate-of-return report for Vista Telephone Company of Iowa and Vista Telephone Company of Minnesota.

## 5 Employment and Labor Productivity

The Bureau of Labor Statistics (BLS) publishes monthly data regarding the total number of employed workers in the communications industry. Specifically, BLS compiles employment statistics for the entire telephone communications industry (Standard Industrial Classification (SIC) 481) and for a subset of this industry, telephone communications minus radiotelephone (SIC 4813). The difference between these two figures yields the number of employees in the radiotelephone industry (SIC 4812).

SIC 4813 includes establishments primarily engaged in furnishing telephone voice and data communications, except radiotelephone and telephone answering services. SIC 4812 includes establishments primarily engaged in providing two-way radiotelephone communication services, such as cellular telephone service. It also includes telephone paging and beeper services. Neither of these categories includes employees from establishments primarily engaged in furnishing telephone answering services, manufacturing equipment, or engineering and research services.

Table 5.1 and the associated graph show the annual average employment figures in the telephone communications industry separately for SIC 4812 and SIC 4813 from 1951 to 2001. Since 1990, employment in the telephone communications industry has grown modestly. Most of the growth in employment over this period is the result of substantial increases in the radiotelephone industry, which grew at an annual average growth rate of approximately 20%.

BLS also calculates an annual telecommunications industry labor productivity index. The BLS index of labor productivity relates output to the employee hours expended in producing that output. This index, presented in Table 5.2, rose an average 6.0% per year from 1951-1999, with 1999 being the most recent data available. This average labor productivity factor is higher than the average in other industries (typically somewhere around 3 to 4%). This higher than average annual growth rate may be the result of telephone companies utilizing more efficient, advanced technology and increases in human capital. Table 5.2 and the associated graph illustrate the rising trend in telecommunications labor productivity since 1951.

Table 5.3 presents estimates of the number of telecommunications service providers that are small businesses as defined by the Small Business Administration's Office of Size Standards (i.e., 1,500 or fewer employees, including all affiliates).



**Table 5.1**

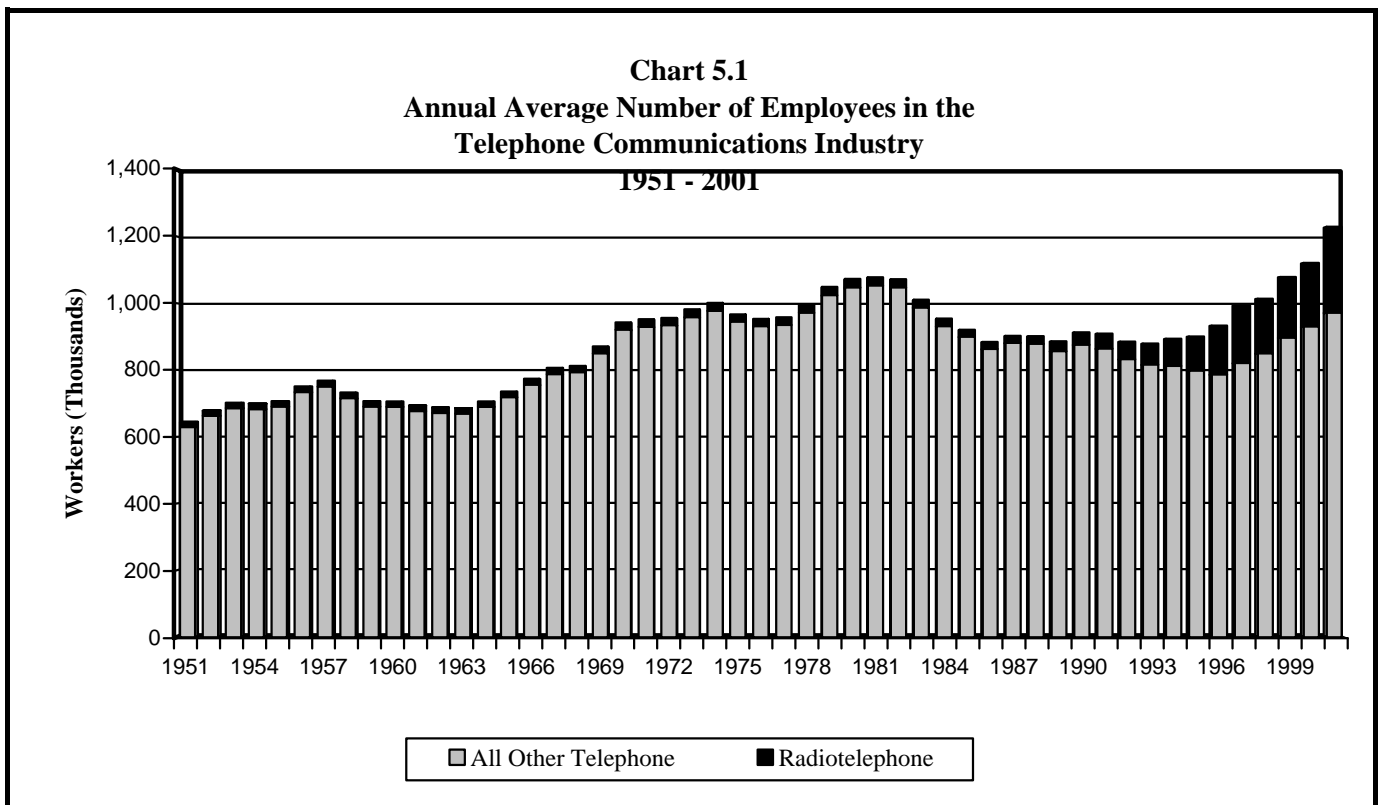
**Annual Average Number of Employees in the Telephone Communications Industry (In Thousands)**

| Year | Radiotelephone | All Other Telephone | Year    | Radiotelephone | All Other Telephone | Year    | Radiotelephone | All Other Telephone |
|------|----------------|---------------------|---------|----------------|---------------------|---------|----------------|---------------------|
| 1951 | 15.2           | 628.8               | 1969    | 20.5           | 849.5               | 1987    | 21.1           | 880.8               |
| 1952 | 16.0           | 662.4               | 1970    | 22.2           | 919.9               | 1988    | 23.2           | 877.9               |
| 1953 | 16.6           | 685.6               | 1971    | 22.4           | 929.2               | 1989 1/ | 29.9           | 856.0               |
| 1954 | 16.5           | 682.3               | 1972    | 22.5           | 933.6               | 1990    | 38.2           | 874.8               |
| 1955 | 16.6           | 690.1               | 1973    | 23.2           | 958.0               | 1991    | 45.6           | 863.6               |
| 1956 | 17.7           | 733.5               | 1974    | 23.6           | 977.2               | 1992    | 53.1           | 832.1               |
| 1957 | 18.1           | 750.1               | 1975    | 22.8           | 943.8               | 1993    | 63.1           | 815.9               |
| 1958 | 17.2           | 714.9               | 1976    | 22.5           | 930.7               | 1994    | 81.0           | 812.4               |
| 1959 | 16.7           | 690.4               | 1977    | 22.6           | 934.7               | 1995    | 102.5          | 797.2               |
| 1960 | 16.6           | 689.4               | 1978    | 23.4           | 971.4               | 1996    | 146.9          | 786.1               |
| 1961 | 16.3           | 677.0               | 1979    | 24.8           | 1023.4              | 1997    | 172.7          | 820.3               |
| 1962 | 16.2           | 671.3               | 1980    | 25.3           | 1046.9              | 1998    | 164.3          | 848.5               |
| 1963 | 16.2           | 669.3               | 1981    | 25.3           | 1052.0              | 1999    | 182.7          | 892.4               |
| 1964 | 16.6           | 689.5               | 1982    | 25.3           | 1046.5              | 2000    | 204.4          | 927.6               |
| 1965 | 17.3           | 717.9               | 1983 1/ | 23.8           | 986.5               | 2001 2/ | 257.1          | 971.3               |
| 1966 | 18.3           | 755.1               | 1984    | 22.4           | 931.0               |         |                |                     |
| 1967 | 19.0           | 787.5               | 1985    | 21.6           | 899.1               |         |                |                     |
| 1968 | 19.2           | 793.2               | 1986 1/ | 20.7           | 862.7               |         |                |                     |

1/ Due to Bell operating company employee strikes in 1983, 1986, and 1989, which lasted one month each, the reported annual average number of workers for those particular years is an average of the eleven months in which workers did not strike.

2/ The 2001 figures are preliminary.

Source: Bureau of Labor Statistics.

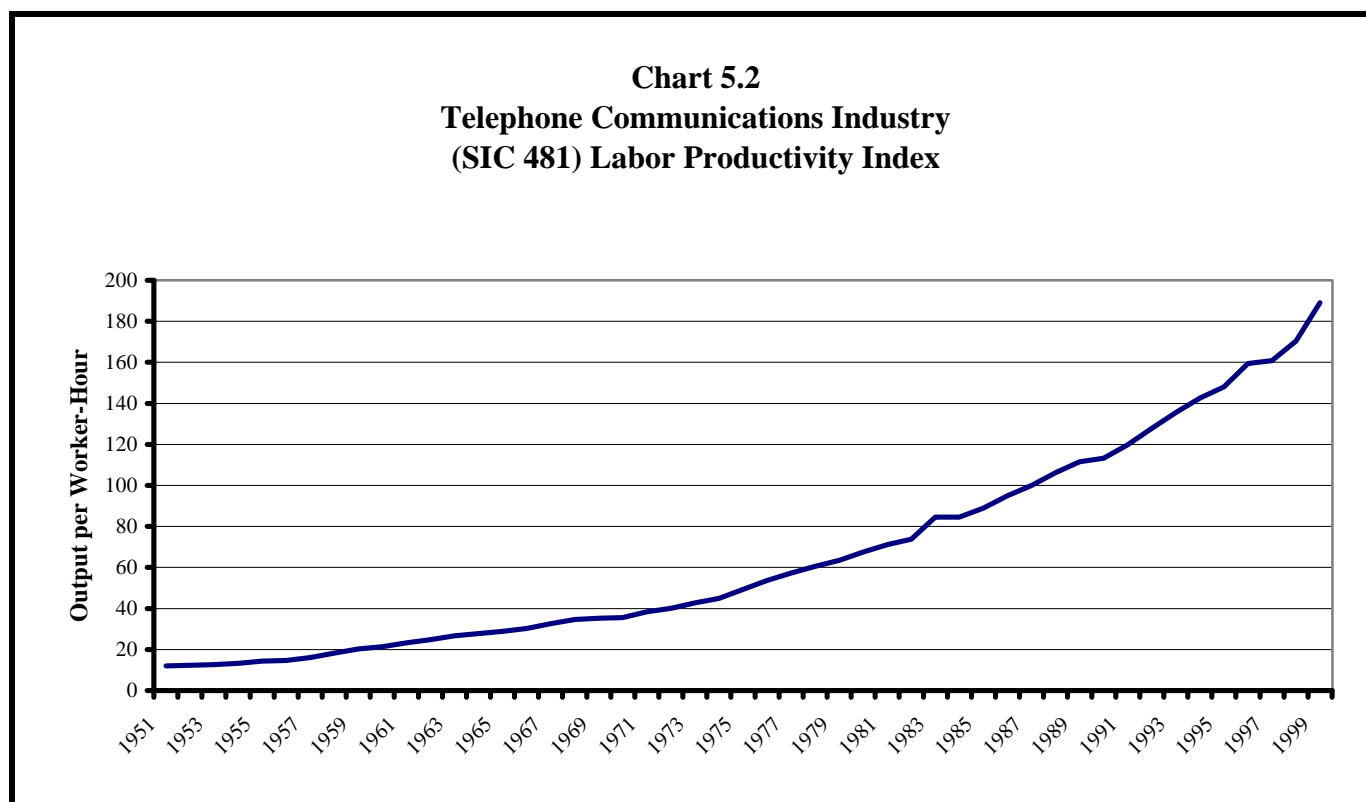


**Table 5.2**

**Labor Productivity Index for the Telephone Communications  
Industry Measured in Output per Hour (OPH)  
(Base Year 1987=100)**

| Year | OPH Index | Year | OPH Index | Year | OPH Index |
|------|-----------|------|-----------|------|-----------|
| 1951 | 12.0      | 1968 | 34.7      | 1985 | 88.9      |
| 1952 | 12.4      | 1969 | 35.3      | 1986 | 95.0      |
| 1953 | 12.6      | 1970 | 35.6      | 1987 | 100.0     |
| 1954 | 13.2      | 1971 | 38.3      | 1988 | 106.2     |
| 1955 | 14.3      | 1972 | 40.1      | 1989 | 111.6     |
| 1956 | 14.6      | 1973 | 42.7      | 1990 | 113.3     |
| 1957 | 16.1      | 1974 | 45.0      | 1991 | 119.8     |
| 1958 | 18.2      | 1975 | 49.3      | 1992 | 127.7     |
| 1959 | 20.3      | 1976 | 53.6      | 1993 | 135.5     |
| 1960 | 21.4      | 1977 | 57.3      | 1994 | 142.2     |
| 1961 | 23.3      | 1978 | 60.6      | 1995 | 148.1     |
| 1962 | 24.8      | 1979 | 63.5      | 1996 | 159.5     |
| 1963 | 26.6      | 1980 | 67.6      | 1997 | 160.9     |
| 1964 | 27.8      | 1981 | 71.1      | 1998 | 170.3     |
| 1965 | 28.9      | 1982 | 73.8      | 1999 | 189.1     |
| 1966 | 30.3      | 1983 | 84.6      |      |           |
| 1967 | 32.6      | 1984 | 84.5      |      |           |

Source: Bureau of Labor Statistics.



**Table 5.3**  
**Number of Telecommunications Service Providers**  
**That Are Small Businesses**

| Service Provider Category   | Number of<br>Form 499-A<br>Filers | Filers that in<br>Combination with<br>Affiliates<br>Have 1,500 or<br>Fewer Employees<br>1/ | Filers that in<br>Combination with<br>Affiliates Have<br>More Than 1,500<br>Employees<br>1/ |
|---|-----------------------------------|--|---|
| Incumbent Local Exchange Carriers (ILECs)   | 1,335                             | 1,037  | 298   |
| Competitive Access Providers (CAPs)<br>and Competitive Local Exchange<br>Carriers (CLECs)                     | 349                               | 297  | 52  |
| Local Resellers   | 87                                | 86   | 1   |
| Other Local Exchange Carriers   | 60                                | 56   | 4   |
| All Competitors of ILECs  | 496                               | 439  | 57  |
| Total: Fixed Local Service Providers  | 1,831                             | 1,476  | 355   |
| Total: Payphone Providers   | 758                               | 755  | 3   |
| Wireless Telephony Including Cellular,<br>Personal Communications Service<br>(PCS) and SMR Telephony Carriers | 806                               | 323  | 483   |
| Paging & Messaging Service  | 427                               | 407  | 20  |
| Specialized Mobile Radio (SMR)<br>Dispatch  | 212                               | 211  | 1   |
| Wireless Data Service Providers   | 6                                 | 5  | 1   |
| Other Mobile Service Providers  | 44                                | 43   | 1   |
| Total: Wireless Service Providers   | 1,495                             | 989  | 506   |
| Interexchange Carriers (IXCs)   | 204                               | 163  | 41  |
| Operator Service Providers (OSPs)   | 21                                | 20   | 1   |
| Prepaid Calling Card Providers  | 21                                | 20   | 1   |
| Satellite Service Carriers  | 21                                | 16   | 5   |
| Toll Resellers  | 454                               | 423  | 31  |
| Other Toll Carriers   | 17                                | 15   | 2   |
| Total: Toll Service Providers   | 738                               | 656  | 82  |
| All Filers  | 4,822                             | 3,875  | 947   |

1/ Estimates were based on gross revenues information filed April 1, 2000 on FCC Form 499-A worksheets, combined with employment information obtained from ARMIS and Securities and Exchange Commission filings as well as industry employment estimates published by the Bureau of Labor Statistics. Actual Form 499-A filings are not available to the public. For this table, filers were considered to be affiliated based on information published in the Industry Analysis Division, *Carrier Locator*. The estimates do not reflect affiliates that do not provide telecommunications services or that operate only in foreign countries.

Source: Form 499-A filers from Industry Analysis Division, *Carrier Locator*.



## 6 International Telephone Service

International telecommunications has become an increasingly important segment of the telecommunications market. International telephone calling -- propelled by technological innovation, increased international trade and travel, and stable or declining international telephone rates -- has skyrocketed. The number of calls made from the United States to other countries increased from 200 million in 1980 to 5.2 billion in 1999. Americans spent about \$14 billion on international calls in 1999. On average, carriers billed 51 cents per minute for international calls in 1999, a decline of more than 50% since 1980. International private line revenues have also increased since 1980, but telex and telegraph services declined substantially over the same period. These trends are shown in Table 6.1.

U.S. and foreign carriers compensate each other when one carries traffic that the other bills. Since 1980, the number of calls billed in the United States increased at a faster pace than calls billed in foreign countries, contributing to rapid increases in net settlement payments to foreign carriers. These net payments from the United States to other countries were \$4.6 billion in 1999. Trends in settlement payments are shown in Table 6.2.

International traffic data are available on a country-by-country basis. Table 6.3 summarizes traffic by region of the world. Five markets -- Canada, Mexico, the United Kingdom, Germany, and Japan -- currently account for about 44% of the international calls billed in the United States.

Since 1985, when MCI began to compete with AT&T for international calls, numerous carriers have begun to provide international service. Fifty-six carriers provided international telecommunications service in 1999 by using their own facilities or lines leased from other carriers. These carriers provided \$14.5 billion of international telephone service between the U.S. and foreign points and \$1.2 billion of international private line service. Table 6.4 shows the U.S.-billed revenues for each of the 56 carriers. Together, AT&T, MCI WorldCom, and Sprint, accounted for 90% of the international service billed in the United States.

In addition to the 56 carriers that owned or leased facilities, about 450 carriers reported the resale of international message telephone service. These carriers reported \$4.5 billion of resale revenue in 1999. The revenues of the fifty largest resellers are shown in Table 6.5.

The data compiled in Tables 6.1 - 6.5 are filed pursuant to Section 43.61 of the Commission's rules. Preliminary data are filed July 31st of each year and final data are filed October 31st. Additional information can be found in a number of international reports on the **FCC-State Link** web page.



**Table 6.1**  
**International Service from the United States to Foreign Points**  
**(Minute, Message, and Revenue Amounts Shown in Millions)**

|      | Telephone Service |          |                 |               |          | Other Services  |           |              |                |
|------|-------------------|----------|-----------------|---------------|----------|-----------------|-----------|--------------|----------------|
|      | Minutes           | Messages | Billed Revenues |               |          | Billed Revenues |           |              |                |
|      |                   |          | Total           | Per Minute 1/ | Per Call | Telex           | Telegraph | Private Line | Misc. Services |
| 1980 | 1,569             | 199      | \$2,097         | \$1.34        | \$10.53  | \$325           | \$63      | \$115        |                |
| 1981 | 1,857             | 233      | 2,239           | 1.21          | 9.61     | 350             | 62        | 126          |                |
| 1982 | 2,187             | 274      | 2,382           | 1.09          | 8.70     | 363             | 56        | 138          |                |
| 1983 | 2,650             | 322      | 2,876           | 1.09          | 8.92     | 379             | 54        | 154          |                |
| 1984 | 3,037             | 367      | 3,197           | 1.05          | 8.71     | 394             | 46        | 158          |                |
| 1985 | 3,350             | 411      | 3,435           | 1.03          | 8.37     | 415             | 45        | 172          |                |
| 1986 | 3,917             | 482      | 3,891           | 0.99          | 8.07     | 390             | 42        | 175          |                |
| 1987 | 4,480             | 570      | 4,559           | 1.02          | 8.00     | 360             | 35        | 191          |                |
| 1988 | 5,190             | 687      | 5,507           | 1.06          | 8.02     | 310             | 30        | 194          |                |
| 1989 | 6,109             | 835      | 6,517           | 1.07          | 7.80     | 243             | 27        | 208          |                |
| 1990 | 7,215             | 984      | 7,626           | 1.06          | 7.75     | 196             | 24        | 201          |                |
| 1991 | 8,986             | 1,371    | 9,096           | 1.01          | 6.63     | 200             | 15        | 303          | \$23           |
| 1992 | 10,156            | 1,643    | 10,179          | 1.00          | 6.20     | 155             | 16        | 313          | 24             |
| 1993 | 11,393            | 1,926    | 11,353          | 1.00          | 5.89     | 135             | 12        | 365          | 23             |
| 1994 | 13,393            | 2,313    | 12,255          | 0.92          | 5.30     | 123             | 12        | 432          | 55             |
| 1995 | 15,837            | 2,821    | 13,990          | 0.88          | 4.96     | 119             | 6         | 432          | 55             |
| 1996 | 19,119            | 3,485    | 14,079          | 0.74          | 4.04     | 119             | 5         | 649          | 26             |
| 1997 | 22,611            | 4,233    | 15,135          | 0.67          | 3.58     | 110             | 4         | 840          | 36             |
| 1998 | 24,026            | 4,439    | 14,154          | 0.59          | 3.19     | 64              | 2         | 902          | 21             |
| 1999 | 28,132            | 5,249    | 14,435          | 0.51          | 2.75     | 57              | 2         | 1,196        | 30             |

Note: Data represent traffic and circuits from domestic U.S. points to foreign points.

1/ Billed revenue per minute for international service differs in Table 14.5 and Table 6.1. Data in Table 14.5 are based on traffic to foreign points for all U.S. carriers serving all U.S. points and staff estimates of end-user revenues. Data for Table 6.1 are based on traffic for domestic U.S. points only and revenues billed by underlying carriers. The domestic U.S. includes Puerto Rico but excludes American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands.

Source: Industry Analysis Division, *Section 43.61 International Telecommunications Data*.

**Table 6.2**  
**International Telephone Service Settlements**  
**(Revenue Amounts Shown in Millions)**

|      |                    |                                |                      |                                 |                    |                 | Average per Minute   |  |  |
|------|--------------------|--------------------------------|----------------------|---------------------------------|--------------------|-----------------|--|--|--|
|      |                    |                                |                      |                                 |                    |                 | Settlement<br>Owed to<br>Foreign<br>Carriers<br>for U.S.<br>Billed Calls | Settlement<br>Due from<br>Foreign<br>Carriers<br>for Foreign<br>Billed Calls | U.S.<br>Carrier<br>Net<br>Revenues<br>All<br>Traffic |
|      | Billed<br>Revenues | Owed to<br>Foreign<br>Carriers | Retained<br>Revenues | Due from<br>Foreign<br>Carriers | Net<br>Settlements | Net<br>Revenues |  |  |  |
| 1980 | \$2,097            | \$1,063                        | \$1,034              | \$716                           | (\$347)            | \$1,750         | \$0.68   | \$0.62   | \$0.64   |
| 1981 | 2,239              | 1,330                          | 910                  | 799                             | (531)              | 1,708           | 0.72   | 0.56   | 0.52   |
| 1982 | 2,382              | 1,674                          | 708                  | 961                             | (712)              | 1,670           | 0.77   | 0.60   | 0.44   |
| 1983 | 2,876              | 2,036                          | 841                  | 1,086                           | (950)              | 1,926           | 0.77   | 0.60   | 0.43   |
| 1984 | 3,197              | 2,269                          | 928                  | 1,066                           | (1,203)            | 1,994           | 0.75   | 0.54   | 0.40   |
| 1985 | 3,435              | 2,369                          | 1,066                | 1,239                           | (1,130)            | 2,305           | 0.71   | 0.55   | 0.41   |
| 1986 | 3,891              | 2,802                          | 1,089                | 1,387                           | (1,414)            | 2,476           | 0.72   | 0.56   | 0.39   |
| 1987 | 4,559              | 3,309                          | 1,250                | 1,634                           | (1,675)            | 2,884           | 0.74   | 0.61   | 0.39   |
| 1988 | 5,507              | 3,868                          | 1,640                | 1,840                           | (2,028)            | 3,480           | 0.75   | 0.62   | 0.41   |
| 1989 | 6,517              | 4,513                          | 2,004                | 2,115                           | (2,398)            | 4,119           | 0.74   | 0.61   | 0.42   |
| 1990 | 7,626              | 5,079                          | 2,547                | 2,317                           | (2,762)            | 4,863           | 0.70   | 0.60   | 0.42   |
| 1991 | 9,096              | 5,792                          | 3,304                | 2,493                           | 1/ (3,298)         | 5,798           | 0.64   | 0.49   | 0.42 2/  |
| 1992 | 10,179             | 5,945                          | 4,234                | 2,601                           | 1/ (3,344)         | 6,835           | 0.59   | 0.46   | 0.43 2/  |
| 1993 | 11,353             | 6,327                          | 5,027                | 2,678                           | 1/ (3,649)         | 7,704           | 0.56   | 0.43   | 0.44 2/  |
| 1994 | 12,255             | 6,947                          | 5,308                | 2,658                           | 1/ (4,289)         | 7,966           | 0.52   | 0.40   | 0.39 2/  |
| 1995 | 13,990             | 7,559                          | 6,432                | 2,623                           | 1/ (4,936)         | 9,054           | 0.48   | 0.35   | 0.39 2/  |
| 1996 | 14,079             | 8,206                          | 5,873                | 2,560                           | 1/ (5,645)         | 8,434           | 0.43   | 0.30   | 0.30 2/  |
| 1997 | 15,135             | 8,016                          | 7,119                | 2,572                           | 1/ (5,444)         | 9,691           | 0.35   | 0.26   | 0.30 2/  |
| 1998 | 14,154             | 6,985                          | 7,169                | 2,512                           | 1/ (4,473)         | 9,681           | 0.29   | 0.21   | 0.27 2/  |
| 1999 | 14,435             | 6,329                          | 8,106                | 1,764                           | 1/ (4,566)         | 9,869           | 0.22   | 0.15   | 0.25 2/  |

Note: Data are for traffic between domestic U.S. points and foreign points.

1/ Includes net settlement receipts for transiting traffic.

2/ Includes transiting traffic.

Source: Industry Analysis Division, *Trends in the International Telecommunications Industry*;  
Section 43.61 *International Telecommunications Data*.

**Table 6.3**  
**International Message Telephone Service for 1999**  
**(Figures Rounded to the Nearest Million)**

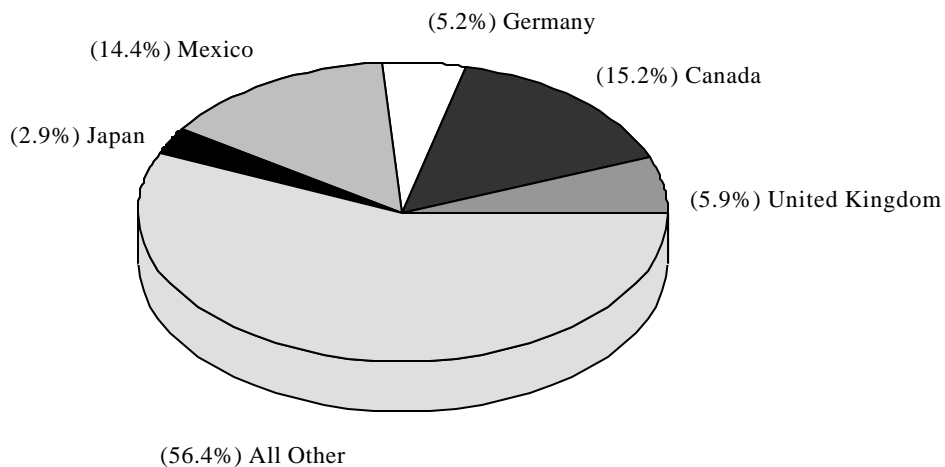
| Region of the World 1/             | Traffic Billed in the United States |                   |                       |                          |                   | Traffic Billed in Foreign Countries             |                   |                           |                   | Total             |
|------------------------------------|-------------------------------------|-------------------|-----------------------|--------------------------|-------------------|---|-------------------|---------------------------|-------------------|-------------------|
|                                    | Number of Messages                  | Number of Minutes | U.S. Carrier Revenues | Owed to Foreign Carriers | Retained Revenues | Originating or Terminating in the United States |                   | Transiting                | U.S. Carrier      |                   |
|                                    |                                     |                   |                       |                          |                   | Number of Messages                              | Number of Minutes | Due from Foreign Carriers | Retained Revenues | Retained Revenues |
| Africa                             | 180                                 | 907               | \$645                 | \$401                    | \$244             | 26  | 110               | \$59                      | \$18              | \$321             |
| Asia                               | 837                                 | 4,860             | 3,089                 | 1,723                    | 1,366             | 223   | 983               | 275                       | 13                | 1,655             |
| Caribbean                          | 300                                 | 1,909             | 956                   | 643                      | 313               | 88  | 351               | 124                       | 7                 | 443               |
| Eastern Europe                     | 163                                 | 1,074             | 593                   | 266                      | 327               | 25  | 108               | 34                        | 6                 | 367               |
| Middle East                        | 171                                 | 933               | 664                   | 388                      | 276               | 91  | 354               | 113                       | 12                | 401               |
| North and Central America          | 1,678                               | 9,219             | 3,843                 | 1,487                    | 2,356             | 1,316   | 5,157             | 526                       | 22                | 2,904             |
| Oceania                            | 110                                 | 589               | 356                   | 150                      | 205               | 60  | 537               | 50                        | 12                | 268               |
| South America                      | 402                                 | 2,050             | 1,271                 | 618                      | 653               | 101   | 455               | 154                       | 11                | 818               |
| Western Europe                     | 1,428                               | 6,693             | 3,028                 | 652                      | 2,376             | 740   | 2,611             | 227                       | 104               | 2,707             |
| Other Regions                      | 1                                   | 4                 | 13                    | 15                       | (3)               | *   | 6                 | 1                         | *                 | (2)               |
| Total for Foreign Points           | 5,249                               | 28,132            | 14,435                | 6,329                    | 8,106             | 2,661   | 10,631            | 1,558                     | 205               | 9,869             |
| Total for U.S. Points              | 20                                  | 106               | 21                    | 13                       | 8                 | 8   | 42                | 5                         | *                 | 13                |
| Total for all International Points | 5,269                               | 28,238            | \$14,456              | \$6,342                  | \$8,114           | 2,669   | 10,672            | \$1,563                   | \$206             | \$9,883           |

\* Denotes values that are less than half a million.

1/ The region totals include all traffic reported by carriers serving Alaska, Hawaii, Puerto Rico, and the conterminous United States, and include traffic between these points and offshore U.S. points such as Guam and the U.S. Virgin Islands. This traffic shown separately as the total for U.S. points, and also is included in the total for all international points. The total for all international points also includes traffic originating in American Samoa and the Northern Mariana Islands, which are excluded from the region totals.

**Chart 6.1**

**U.S. Billed Minutes by Country**



Source: Industry Analysis Division, *Section 43.61 International Telecommunications Data*.

**Table 6.4**  
**U.S. Billed Revenues of Facilities-Based and Facilities-Resale Carriers in 1999 1/**  
**(Revenue Amounts Shown in Millions)**

|  | International Service |                 |   | Total<br>International<br>Billed<br>Revenues |
|--|-----------------------|-----------------|---|--|
|  | Telephone             | Private<br>Line | Telex, Telegraph,<br>and Other<br>Miscellaneous |  |
| ABS-CBN Telecom North America, Inc.            | \$6                   |                 |   | \$6  |
| AM Telecom, LLC                                |                       |                 |   |  |
| American Samoa Telecomm. Authority             | 2                     |                 |   | 2  |
| American Tower Corp.                           |                       | \$46            |   | 46   |
| Andrew Telecom, Inc.                           | 1                     | 2               |   | 2  |
| AT&T Corp.                                     | 6,755                 | 556             | \$33  | 7,344  |
| BellSouth Corporation                          | 8                     |                 |   | 8  |
| Communication TeleSys. Int'l./WorldxChange     | 25                    |                 |   | 25   |
| COMSAT Corporation                             |                       | 46              |   | 46   |
| DirectNet Telecommunications                   | 10                    | 2               |   | 12   |
| Energis (Switzerland) AG                       |                       | 1               |   | 1  |
| Far East Gateway, Inc.                         | *                     |                 |   | *  |
| Fedex International Transmission Corporation   |                       | *               |   | *  |
| GE American Communications, Inc.               |                       | 6               |   | 6  |
| Geocomm Corporation                            |                       | *               |   | *  |
| GTE Corporation                                | 51                    | 4               | *   | 55   |
| Harris Corporation                             | *                     |                 |   | *  |
| IDT Corporation                                | 23                    |                 |   | 23   |
| IMPSAT USA, Inc.                               |                       | 16              |   | 16   |
| International Exchange Networks, Ltd.          | 2                     | 15              |   | 16   |
| Iridium North America                          |                       |                 | 10  | 10   |
| IT&E Overseas, Inc.                            | 19                    | 3               |   | 22   |
| Japan Telecom America, Inc.                    | 3                     | *               |   | 3  |
| KDD America, Inc.                              | 2                     | 4               |   | 6  |
| KPN-INS, Inc.                                  | 16                    |                 |   | 16   |
| LC Communications - International Telecom Inc. | 3                     |                 |   | 3  |
| Level 3 Communications, LLC                    |                       | 1               |   | 1  |
| Local Communications Network, Inc.             |                       | 4               |   | 4  |
| Madge.web International (C.I.) Limited         |                       | 4               |   | 4  |
| Masatepe Communications, U.S.A., L.L.C.        | 1                     |                 |   | 1  |
| MCI WorldCom, Inc.                             | 5,056                 | 372             | 25  | 5,453  |
| Medley International Teleport, Inc.            |                       |                 | 1   | 1  |
| Melbourne International Comm., Ltd.            | *                     | 2               |   | 3  |
| Metromedia Fiber Network Services, Inc.        |                       | 1               |   | 1  |
| Mobile Satellite Communications, Inc.          |                       | 1               | *   | 1  |
| Norlight Telecommunications, Inc.              |                       | *               |   | *  |
| ntta.com, inc.                                 |                       | 3               |   | 3  |
| Pacific Gateway Exchange, Inc.                 | 60                    | *               |   | 60   |
| PanAmSat Comm. Carrier Services, Inc.          |                       | *               |   | *  |
| Primus Telecommunications, Inc.                | 241                   |                 |   | 241  |
| PSO, Inc. d/b/a Canal Uno                      |                       |                 | *   | *  |
| RSL Communications, Ltd.                       | 107                   | *               |   | 108  |
| Satellite Communication Systems, Inc.          | *                     | 3               |   | 3  |
| SBC Communications, Inc.                       | 2                     | 2               |   | 4  |
| Sprint   | 1,379                 | 120             | 16  | 1,514  |
| Star Telecommunications, Inc.                  | 140                   |                 |   | 140  |
| Startcomm Corporation                          | *                     |                 |   | *  |
| Startec Global Communications Corp.            | 75                    |                 |   | 75   |
| Telecomunicaciones Ultramarinas-Puerto Rico    |                       | 1               |   | 1  |
| Telefonica Larga Distancia, Inc. (TLD)         | 19                    | 2               |   | 21   |
| Telstra Incorporated                           | *                     |                 |   | *  |
| TRICOM USA, Inc.                               | 9                     |                 |   | 9  |
| V-SAT Telecom, Inc.                            | *                     | *               |   | *  |
| Viatel, Inc.                                   | 212                   |                 |   | 212  |
| Williams Communications, Inc.                  |                       |                 | 5   | 5  |
| World Access (FaciliCom International L.L.C.)  | 276                   |                 |   | 276  |
| Total All Carriers 2/                          | \$14,506              | \$1,216         | \$89  | \$15,812                                     |

\* Represents revenues greater than \$0 but less than \$500,000.

1/ Totals exclude pure resale services. Data do not show settlement receipts for terminating foreign billed traffic.

2/ Includes revenues for American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands. Other tables in this section exclude this traffic. The data shown in this table include \$50 million of revenues billed in these points as well as \$21 million of revenues for calls between the domestic United States and these points.

Source: Industry Analysis Division, *Section 43.61 International Telecommunications Data*.

**Table 6.5  
Top Providers of Pure Resale International MTS in 1999**

|   | <b>Number of Messages</b> | <b>Number of Minutes</b> | <b>U.S. Carrier Revenues</b> | <b>Percent of Total IMIS Resale Revenues</b> |
|---|---------------------------|--------------------------|------------------------------|--|
| Access Authority, Inc.  | 9,762,704                 | 69,902,160               | \$20,870,738                 | 0.46 %                                       |
| ACS Systems, Inc. d.b.a LD Exchange.com                         | 44,781,532                | 203,974,633              | 58,847,458                   | 1.30   |
| ALLTEL Corporation  | 1,459,787                 | 10,844,746               | 5,451,108                    | 0.12   |
| AT&T Corp.  | 141,932,631               | 884,898,390              | 254,016,193                  | 5.61   |
| BellSouth Corporation   | 34,045,495                | 106,471,859              | 28,799,468                   | 0.64   |
| Broadwing Companies   | 56,820,588                | 220,064,637              | 51,128,611                   | 1.13   |
| Business Telecom, Inc. (BTI)                                    | 9,102,584                 | 45,516,432               | 12,553,650                   | 0.28   |
| CapRock Telecommunications Corporation                          | 25,518,740                | 176,080,786              | 43,391,366                   | 0.96   |
| Capsule Communications d.b.a. US WATS, Inc.                     | 10,394,537                | 29,554,920               | 8,751,116                    | 0.19   |
| Communication TeleSystems Int'l., d/b/a CTS and WorldxChange    | 150,245,283               | 1,032,966,114            | 192,876,638                  | 4.26   |
| DirectNet Telecommunications                                    | 50,822,341                | 272,088,214              | 75,924,324                   | 1.68   |
| eGlobe  | 3,148,536                 | 30,418,884               | 7,549,525                    | 0.17   |
| Elephant Talk, Inc.   | 5,100,331                 | 61,203,977               | 20,080,033                   | 0.44   |
| EqualNet Corporation  | 1,244,525                 | 24,890,502               | 7,778,282                    | 0.17   |
| Global Crossing Telecommunications, Inc.                        | 70,554,799                | 285,041,392              | 232,194,464                  | 5.13   |
| Globalcom, Inc.   | 1,222,766                 | 24,455,318               | 7,642,287                    | 0.17   |
| GTE   | 26,143,969                | 171,350,567              | 151,444,931                  | 3.34   |
| Heritage Communications Corporation                             | 8,105,820                 | 84,071,750               | 9,510,190                    | 0.21   |
| Intellicall Operator Services, Inc., d/b/a ILD                  | 1,559,620                 | 16,696,575               | 5,571,310                    | 0.12   |
| Intermedia Communications, Inc.                                 | 1,491,609                 | 29,832,176               | 9,322,555                    | 0.21   |
| Interoute Telecommunications, Inc.incl. American Telecom, Inc.  | 10,604,886                | 147,036,505              | 33,525,465                   | 0.74   |
| Lightyear Communications, Inc.                                  | 9,014,712                 | 36,347,332               | 14,261,265                   | 0.31   |
| McLeodUSA   | 7,075,098                 | 25,276,847               | 8,952,586                    | 0.20   |
| Netmoves Corp.  | 8,435,329                 | 15,066,065               | 8,589,085                    | 0.19   |
| NET-tel Corporation   | 2,907,033                 | 58,140,659               | 18,168,956                   | 0.40   |
| Network Plus, Inc.  | 56,781,157                | 181,699,704              | 62,751,000                   | 1.39   |
| NOS Communications, Inc.  | 9,447,895                 | 76,807,277               | 26,239,729                   | 0.58   |
| Progress International, L.L.C. (Progress)                       | 4,297,747                 | 28,365,131               | 7,341,038                    | 0.16   |
| Qwest Communications Corporation incl. LCI International        | 108,301,660               | 492,344,044              | 177,850,185                  | 3.93   |
| Rapid Link USA, Inc.  | 20,955,533                | 180,068,686              | 24,240,358                   | 0.54   |
| RSL COM U.S.A., Inc.  | 78,967,849                | 579,213,182              | 126,721,682                  | 2.80   |
| SBC Communications, Inc. incl. SNET and CCPR Services           | 37,098,762                | 125,668,884              | 70,706,293                   | 1.56   |
| Sprint  | 102,531,423               | 533,332,140              | 243,736,675                  | 5.38   |
| Star Telecommunications, Inc. incl. PT-1                        | 601,503,888               | 4,135,593,245            | 922,797,050                  | 20.38  |
| Startec Global Communications Corporation incl. PCI Com.        | 7,991,148                 | 59,762,003               | 20,495,290                   | 0.45   |
| Talk.com Holding Corp.  | 10,631,048                | 212,620,960              | 66,444,050                   | 1.47   |
| Teleglobe Companies incl Excel and Long Distance Wholesale Club | 30,155,007                | 268,579,480              | 164,506,371                  | 3.63   |
| Teligent  | 26,667,030                | 50,003,799               | 7,752,479                    | 0.17   |
| U S West Communications, Inc.                                   | 6,239,560                 | 124,791,200              | 38,997,250                   | 0.86   |
| United States Cellular Corporation                              | 20,693,200                | 37,522,689               | 17,024,260                   | 0.38   |
| URSUS Telecom Corporation                                       | 5,201,718                 | 19,096,929               | 12,547,739                   | 0.28   |
| USA Global Link, Inc.   | 6,369,622                 | 32,541,627               | 10,526,082                   | 0.23   |
| USC Telecom, Inc.   | 2,042,191                 | 40,843,814               | 12,763,692                   | 0.28   |
| VarTec Telecom, Inc.  | 17,583,515                | 67,676,456               | 62,434,785                   | 1.38   |
| Verizon Wireless  | 56,536,041                | 211,282,250              | 49,806,763                   | 1.10   |
| VoiceStream Wireless Corporation incl. Omnipoint Corporation    | 2,899,603                 | 7,793,712                | 5,624,342                    | 0.12   |
| Winstar Communications, Inc.                                    | 3,053,257                 | 10,767,053               | 5,378,260                    | 0.12   |
| Working Assets Long Distance                                    | 2,862,837                 | 23,551,832               | 15,121,203                   | 0.33   |
| World Access Telecommunications Group, Inc.                     | 211,462,004               | 1,238,406,098            | 329,380,477                  | 7.28   |
| WorldCom, Inc.  | 387,182,338               | 1,858,724,000            | 618,211,602                  | 13.65  |
| Total for 329 Carriers Not Shown Above 1/                       | 84,074,165                | 389,107,995              | 140,937,100                  | 3.11   |
| Total for all Reporting Carriers                                | 2,593,025,453             | 15,048,355,630           | \$4,527,537,359              | 100.00 %                                     |

1/ Data are consolidated for affiliated carriers. A total of 379 companies made a total of 451 filings. The 50 companies shown in the table represent 85 filings.

Source: Industry Analysis Division, *Section 43.61 International Telecommunications Data*.

## **7 Lifeline and LinkUp Programs**

In 1984, the FCC, in conjunction with the states and local telephone companies, established a Lifeline program designed to promote universal service by providing low-income individuals with monthly discounts on the monthly cost of telephone service. In 1987, the FCC adopted LinkUp America, a program designed to help low-income households pay the initial costs of commencing service. In June 2000, the Commission further expanded the Lifeline and LinkUp programs to address the needs of those living on tribal lands.

The LinkUp America program, which supports affordable connection to the network, has added 10.6 million telephone subscribers since 1987. In 2000, an estimated 5.9 million subscribers paid reduced local rates under the Lifeline program.

The Commission's rules are designed to satisfy the 1996 Telecommunications Act which mandates "affordable" rates for "low-income consumers" in all regions of the nation. The rules also make the contribution and distribution of low-income support competitively and technologically neutral by requiring equitable and nondiscriminatory contributions from all providers of interstate telecommunications services, and by allowing all eligible telecommunications carriers to receive support for offering Lifeline and LinkUp service.

### **1. Lifeline and LinkUp Support**

In states that provide state Lifeline support, Lifeline and LinkUp are available to all subscribers who meet those state standards. Although states have some latitude in selecting means tests, state commissions must establish narrowly targeted qualification criteria that are based solely on income or factors directly related to income for its low-income residents to be eligible for Lifeline and LinkUp. In addition, a state with eligible residents of tribal lands must ensure that its qualification criteria are reasonably designed to apply to eligible residents of tribal lands within the state. To receive Lifeline and LinkUp in a state that does not mandate state Lifeline support, consumers must certify that they participate in one of the following five federal programs: Medicaid, food stamps, Supplemental Security Income (SSI), federal public housing assistance, or the Low-Income Home Energy Assistance Program (LIHEAP).

Eligible subscribers living on tribal lands qualify to receive federal Lifeline support if: (1) they qualify under state criteria in a state that provides Lifeline support; (2) they certify that they receive benefits from one of the five federal programs listed above; or (3) they participate in one of the following federal assistance programs: Bureau of Indian Affairs' (BIA) general assistance program, Tribally Administered Temporary Assistance for Needy Families (TANF), National School Lunch Program's free lunch program, or Head Start (meeting the income-qualifying standard).



## **2. Lifeline Support**

Under the Commission's rules, there are four tiers of federal Lifeline support. The first tier represents a waiver of the federal subscriber line charge, which may range from \$3.50 to \$5.00 per month. All eligible subscribers receive first tier support. Second tier support is a \$1.75 per month reduction in the basic local rate, and it is available if all relevant non-federal regulatory authorities approve such a reduction. (All fifty states have approved.)

The third tier of federal support is based on the amount of additional state support mandated by the relevant state or otherwise provided by carriers. Federal support is available to match one half of the non-federal support provided, up to a maximum of \$1.75 in federal support, assuming that the carrier has all necessary approvals to pass on the full amount of this total support in discounts to subscribers.

Eligible subscribers living on tribal lands also qualify to receive a fourth tier of Lifeline support if they meet the eligibility standards described above. Tier four support provides up to an additional \$25 per month towards reducing basic local service rates. This enhanced support should bring basic monthly rates down to \$1 for most Lifeline customers on tribal lands.

## **3. LinkUp Support**

The Commission's LinkUp program provides qualified low-income individuals with a federally-financed 50% discount (up to a maximum \$30 discount) on initial connection charges. These subscribers also may choose to schedule deferred payments of up to \$200 over a one-year period, with the customary interest charges paid by federal support.

In addition, eligible residents of tribal lands may receive support to fully cover any charges between \$60 and \$130, representing up to a maximum of \$100 in discounts on initial connection charges of \$130 or more.

## **4. Services**

Basic service must include, at a minimum: single-party service, voice-grade access to the public switched telephone network, Dual Tone Multifrequency signaling or its functional digital equivalent, access to emergency services, access to operator services, access to interexchange service, access to directory assistance, and toll limitation. The federal program compensates eligible telecommunications carriers for toll limitation based on the carrier's incremental cost of providing toll-limitation services (TLS).

The FCC monitors subscriber participation and telephone usage to determine program benefits and costs. Historical tables for subscribership and carrier payments by state can be downloaded from the *Monitoring Report's* section of the **FCC-State Link** web site, <[www.fcc.gov/ccb/stats](http://www.fcc.gov/ccb/stats)>.

Table 7.1 reports Lifeline monthly support by state or jurisdiction as of April 2001. The table shows both federal and state support, and indicates the additional contribution from the federal program to reduce local rates where states have authorized statewide or carrier specific intrastate local rate reductions. Table 7.1 indicates both the federal and state combined "minimum" local rate reduction. This table does not reflect changes in support that resulted from the implementation of the *CALLS* order.

Table 7.2 reports annual historical Lifeline subscribership data by state or jurisdiction for years 1989 through 2000. Historical data from the inception of the program in 1985 through 1988 may be found on the *Monitoring Report's* section of the **FCC-State Link** web site as mentioned above.

Table 7.3 reports annual historical LinkUp subscribership data by state or jurisdiction for years 1989 through 2000. LinkUp program participation was first certified in 1987. Historical data for 1987 and 1988 are available in the *Monitoring Report's* section of the **FCC-State Link** web site as mentioned above.

Table 7.4 reports annual historical Lifeline payments to carriers in each state or jurisdiction and shows total reimbursements to each state or jurisdiction. The report provides Lifeline support totals for payments made to subscribers through local rate discounts. The payments shown in these tables include TLS and PICC data; however, these tables do not include state or local rate contributions.

Table 7.5 reports annual historical data for the LinkUp connection assistance payments to carriers in each state or jurisdiction. The LinkUp program includes connection discounts reflected in the reimbursements to local carriers.

Table 7.6 reports low-income support, by state or jurisdiction, for Lifeline and LinkUp payments between January 1998 and December 2000. Total carrier payments data include local rate reductions for the presubscribed interexchange carrier charges (PICCs), and the carrier's incremental cost of providing toll-limitation services in each state or jurisdiction. American Indian and Native American tribal data are also reported in this table showing the 2000 data. Data are not available for previous years due to the October 2000 implementation of \$1.00 rate. Data will appear only for states where eligible subscribers living on tribal lands qualify to receive low-income support.



**Table 7.1**  
**Lifeline Monthly Support by State or Jurisdiction**  
**(As of April 2001)**

| <b>State or Jurisdiction</b> | <b>Basic Federal Support</b> | <b>Additional State Support</b> | <b>Federal Match</b> | <b>Total Federal Support</b> | <b>Total Federal and State Support</b> |
|------------------------------|------------------------------|---------------------------------|----------------------|------------------------------|--|
| Alabama                      | \$6.10                       | \$3.50                          | \$1.75               | \$7.85                       | \$11.35                                |
| Alaska                       | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| American Samoa               | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| Arizona                      | 6.10                         | 3.50                            | 1.14                 | 7.24                         | 10.74                                  |
| Arkansas                     | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| California                   | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Colorado                     | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Connecticut                  | 6.10                         | 1.17                            | 0.58                 | 6.68                         | 7.85                                   |
| Delaware                     | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| District of Columbia         | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Florida                      | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Georgia                      | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Guam                         | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Hawaii                       | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| Idaho                        | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Illinois                     | 6.10                         | 1.50                            | 0.75                 | 6.85                         | 8.35                                   |
| Indiana                      | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| Iowa                         | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| Kansas                       | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Kentucky                     | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Louisiana                    | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| Maine                        | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Maryland                     | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Massachusetts                | 6.10                         | 6.00                            | 1.75                 | 7.85                         | 13.85                                  |
| Michigan                     | 6.10                         | 2.00                            | 1.00                 | 7.10                         | 9.10                                   |
| Minnesota                    | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| Mississippi                  | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Missouri                     | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| Montana                      | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Nebraska                     | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Nevada                       | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| New Hampshire                | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| New Jersey                   | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| New Mexico                   | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| New York                     | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| North Carolina               | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| North Dakota                 | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Northern Mariana Islands     | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| Ohio                         | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| Oklahoma                     | 6.10                         | 1.17                            | 0.58                 | 6.68                         | 7.85                                   |
| Oregon                       | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Pennsylvania                 | 6.10                         | 2.50                            | 1.25                 | 7.35                         | 9.85                                   |
| Puerto Rico                  | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| Rhode Island                 | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| South Carolina               | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| South Dakota                 | 6.10                         | 0.00                            | 0.00                 | 6.10                         | 6.10                                   |
| Tennessee                    | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Texas                        | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Utah                         | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Vermont                      | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Virginia                     | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| Virgin Islands               | 6.10                         | 7.05                            | 1.75                 | 7.85                         | 14.90                                  |
| Washington                   | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |
| West Virginia                | 6.10                         | 2.00                            | 1.00                 | 7.10                         | 9.10                                   |
| Wisconsin                    | 6.10                         | 1.17                            | 0.58                 | 6.68                         | 7.85                                   |
| Wyoming                      | 6.10                         | 3.50                            | 1.75                 | 7.85                         | 11.35                                  |

Source: Universal Service Administrative Company (USAC).



**Table 7.2**  
**Lifeline Assistance - Subscribers by State or Jurisdiction**

| State or Jurisdiction | 1989      | 1990      | 1991      | 1992      | 1993      | 1994      | 1995      | 1996      | 1997      | 1998      | 1999      | 2000      |
|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Alabama               | 0         | 0         | 0         | 0         | 0         | 0         | 2,648     | 11,052    | 14,346    | 17,201    | 18,676    | 21,488    |
| Alaska                | 0         | 0         | 0         | 0         | 0         | 887       | 1,445     | 1,684     | 1,761     | 2,530     | 4,321     | 8,897     |
| American Samoa        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 156       | 427       | 657       |
| Arizona               | 5,959     | 6,723     | 6,214     | 5,748     | 7,587     | 9,146     | 9,820     | 10,679    | 9,438     | 21,461    | 22,118    | 25,264    |
| Arkansas              | 6,262     | 6,703     | 7,295     | 7,479     | 7,370     | 6,859     | 7,988     | 9,730     | 8,926     | 8,870     | 8,843     | 9,228     |
| California            | 1,467,859 | 1,578,458 | 1,792,884 | 2,000,234 | 2,327,740 | 2,534,160 | 2,817,982 | 3,032,960 | 3,000,571 | 3,105,855 | 3,157,706 | 3,196,661 |
| Colorado              | 0         | 9,897     | 17,871    | 20,110    | 18,814    | 18,136    | 16,992    | 22,195    | 22,452    | 21,950    | 23,995    | 26,644    |
| Connecticut           | 0         | 0         | 0         | 0         | 15,294    | 50,510    | 62,982    | 62,610    | 61,683    | 59,547    | 61,437    | 64,745    |
| Delaware              | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 368       | 606       | 756       |
| District of Columbia  | 2,964     | 2,894     | 2,866     | 5,422     | 12,344    | 11,572    | 10,252    | 9,888     | 7,580     | 9,404     | 10,593    | 11,236    |
| Florida               | 0         | 0         | 0         | 0         | 0         | 61,442    | 108,431   | 134,258   | 129,723   | 131,749   | 129,980   | 134,263   |
| Georgia               | 0         | 0         | 31,681    | 58,497    | 67,112    | 72,548    | 79,545    | 79,606    | 75,341    | 73,660    | 74,825    | 73,037    |
| Guam                  | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 313       | 905       | 2,033     |
| Hawaii                | 6,378     | 6,081     | 5,950     | 5,862     | 6,005     | 6,200     | 6,444     | 6,731     | 6,465     | 9,008     | 12,590    | 15,381    |
| Idaho                 | 7,861     | 8,186     | 8,411     | 8,149     | 8,212     | 7,090     | 7,347     | 7,526     | 7,408     | 6,907     | 14,780    | 19,696    |
| Illinois              | 0         | 0         | 0         | 0         | 26        | 0         | 0         | 0         | 0         | 29,104    | 49,347    | 57,821    |
| Indiana               | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 12,439    | 19,058    | 19,471    |
| Iowa                  | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 2,460     | 6,105     | 11,832    |
| Kansas                | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 4,260     | 5,591     | 8,540     |
| Kentucky              | 26        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 5,044     | 25,040    | 39,550    |
| Louisiana             | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 5,838     | 10,435    | 15,476    |
| Maine                 | 33,308    | 44,392    | 53,020    | 63,411    | 70,029    | 68,482    | 62,949    | 61,177    | 63,553    | 63,407    | 67,401    | 75,186    |
| Maryland              | 2,930     | 5,465     | 5,203     | 5,395     | 5,228     | 5,226     | 4,663     | 4,028     | 3,964     | 3,784     | 3,885     | 3,948     |
| Massachusetts         | 0         | 87,285    | 131,635   | 143,216   | 160,221   | 165,723   | 167,182   | 162,384   | 156,294   | 161,657   | 167,699   | 165,520   |
| Michigan              | 41,121    | 66,053    | 96,044    | 116,398   | 130,586   | 138,870   | 135,599   | 131,786   | 129,337   | 129,208   | 132,432   | 141,536   |
| Minnesota             | 45,625    | 57,529    | 57,075    | 51,151    | 55,380    | 59,431    | 51,089    | 48,494    | 47,575    | 49,073    | 54,787    | 54,717    |
| Mississippi           | 0         | 0         | 2,153     | 2,405     | 4,493     | 8,438     | 9,717     | 9,282     | 8,321     | 10,471    | 13,370    | 16,694    |
| Missouri              | 15,187    | 14,639    | 16,980    | 17,295    | 17,356    | 15,807    | 13,897    | 11,272    | 10,368    | 7,885     | 10,709    | 18,980    |
| Montana               | 5,023     | 5,507     | 5,405     | 5,698     | 6,617     | 6,744     | 6,813     | 8,031     | 7,613     | 7,963     | 9,570     | 11,060    |
| Nebraska              | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 9,650     | 11,434    | 14,728    |
| Nevada                | 4,497     | 5,702     | 5,748     | 6,339     | 7,528     | 8,927     | 9,408     | 8,472     | 9,284     | 3,438     | 10,551    | 17,486    |
| New Hampshire         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 2,581     | 5,205     | 6,453     |
| New Jersey            | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 5,478     | 6,434     | 29,095    |
| New Mexico            | 11,722    | 12,770    | 15,190    | 18,660    | 28,742    | 32,244    | 28,380    | 30,075    | 30,314    | 30,816    | 32,843    | 36,859    |
| New York              | 271,386   | 327,808   | 393,684   | 456,174   | 522,684   | 592,705   | 705,871   | 756,657   | 698,267   | 703,001   | 657,267   | 586,742   |
| North Carolina        | 15,852    | 14,996    | 15,812    | 21,208    | 23,496    | 23,446    | 22,791    | 23,086    | 22,595    | 29,640    | 44,434    | 62,475    |
| North Dakota          | 0         | 10,037    | 10,610    | 10,664    | 10,029    | 9,411     | 8,657     | 7,146     | 7,369     | 10,895    | 11,968    | 13,196    |
| Northern Mariana Is.  | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 192       | 494       | 427       |
| Ohio                  | 15,420    | 14,885    | 15,712    | 33,450    | 44,801    | 47,126    | 54,706    | 58,392    | 60,366    | 69,358    | 109,202   | 167,212   |
| Oklahoma              | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 532       | 532       | 1,521     | 2,454     | 17,101    |
| Oregon                | 22,330    | 21,551    | 23,064    | 25,229    | 28,305    | 30,475    | 35,820    | 34,804    | 31,213    | 27,953    | 28,934    | 30,371    |
| Pennsylvania          | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 4,797     | 7,114     | 23,202    | 40,168    | 48,644    |
| Puerto Rico           | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 10,168    | 16,895    | 17,720    |
| Rhode Island          | 14,017    | 15,757    | 23,765    | 26,906    | 38,672    | 39,992    | 40,835    | 42,524    | 43,881    | 45,066    | 46,244    | 47,412    |
| South Carolina        | 0         | 0         | 0         | 0         | 0         | 0         | 10,624    | 16,498    | 18,386    | 22,222    | 21,091    | 20,820    |
| South Dakota          | 4,657     | 4,764     | 4,924     | 5,018     | 5,076     | 3,561     | 3,690     | 3,718     | 3,708     | 10,698    | 11,532    | 13,255    |
| Tennessee             | 0         | 0         | 0         | 18,749    | 20,419    | 20,721    | 19,934    | 19,926    | 18,819    | 22,915    | 30,347    | 38,839    |
| Texas                 | 21,055    | 33,698    | 48,453    | 96,405    | 103,232   | 136,352   | 165,609   | 190,095   | 193,444   | 210,672   | 236,934   | 258,810   |
| Utah                  | 14,746    | 16,006    | 21,565    | 27,717    | 28,379    | 28,157    | 26,930    | 24,088    | 22,625    | 20,096    | 19,237    | 19,394    |
| Vermont               | 17,013    | 18,044    | 20,661    | 21,895    | 22,973    | 24,322    | 25,624    | 24,791    | 25,356    | 26,475    | 28,464    | 29,740    |
| Virgin Islands        | 0         | 0         | 0         | 0         | 316       | 594       | 253       | 296       | 471       | 567       | 402       | 511       |
| Virginia              | 14,895    | 16,201    | 17,365    | 19,143    | 21,293    | 22,100    | 20,744    | 22,180    | 23,187    | 22,040    | 22,306    | 21,658    |
| Washington            | 34,685    | 49,985    | 68,235    | 74,879    | 85,571    | 90,148    | 87,276    | 84,149    | 63,965    | 61,563    | 61,809    | 68,142    |
| West Virginia         | 4,930     | 4,490     | 4,262     | 4,115     | 4,160     | 4,704     | 4,230     | 4,336     | 5,164     | 5,320     | 5,546     | 5,294     |
| Wisconsin             | 31        | 7         | 54,137    | 55,829    | 54,576    | 59,744    | 58,071    | 50,714    | 50,894    | 42,514    | 59,331    | 62,715    |
| Wyoming               | 0         | 0         | 416       | 1,366     | 1,271     | 1,119     | 818       | 776       | 864       | 1,113     | 1,337     | 1,363     |
| Industry Total        | 2,107,739 | 2,466,513 | 2,984,290 | 3,440,216 | 3,971,937 | 4,423,119 | 4,914,056 | 5,233,425 | 5,110,537 | 5,380,726 | 5,640,094 | 5,886,779 |

1/ Subscriber data was not actually collected in 1997. USAC used estimated number of subscribers for all states.

2/ Average number of subscribers reported for 1999 through 2000 for companies requesting reimbursement (including true-ups through March 2001). 99% of all eligible companies have reported to USAC for reimbursement at this time.

Source: Universal Service Administrative Company (USAC).

**Table 7.3**  
**LinkUp Assistance - Subscribers by State or Jurisdiction**

| State or Jurisdiction    | 1989    | 1990    | 1991    | 1992    | 1993    | 1994    | 1995    | 1996    | 1997  | 1998         | 1999         | 2000         |
|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|-------|--------------|--------------|--------------|
| Alabama                  | 1,810   | 1,927   | 2,182   | 1,381   | 736     | 308     | 276     | 362     | NA    | 2,277        | 1,590        | 1,462        |
| Alaska                   | 0       | 0       | 0       | 0       | 0       | 395     | 777     | 732     | NA    | 917          | 982          | 752          |
| American Samoa           | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | NA    | 122          | 89           | 53           |
| Arizona                  | 138     | 416     | 206     | 88      | 257     | 367     | 387     | 906     | NA    | 528          | 4,805        | 4,884        |
| Arkansas                 | 4,846   | 5,240   | 6,522   | 7,067   | 12,082  | 16,124  | 8,549   | 11,577  | NA    | 8,183        | 5,395        | 3,270        |
| California               | 0       | 180     | 0       | 0       | 0       | 0       | 0       | 0       | NA    | 1,542,297    | 1,325,904    | 1,216,706    |
| Colorado                 | 0       | 585     | 1,749   | 1,614   | 1,257   | 859     | 593     | 2,216   | NA    | 2,537        | 1,278        | 1,113        |
| Connecticut              | 2,737   | 3,499   | 6,661   | 9,164   | 10,316  | 17,176  | 18,410  | 13,934  | NA    | 8,938        | 6,829        | 4,442        |
| Delaware                 | 0       | 0       | 0       | 0       | 0       | 0       | 7       | 406     | NA    | 132          | 62           | 48           |
| District of Columbia     | 531     | 514     | 510     | 1,145   | 1,863   | 1,675   | 1,920   | 1,784   | NA    | 26           | 28           | 3            |
| Florida                  | 3,924   | 3,342   | 3,824   | 4,690   | 2,811   | 2,290   | 1,639   | 3,831   | NA    | 9,799        | 9,266        | 9,652        |
| Georgia                  | 0       | 0       | 13,052  | 28,108  | 21,446  | 20,753  | 20,656  | 15,368  | NA    | 10,701       | 8,723        | 4,348        |
| Guam                     | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | NA    | 201          | 703          | 787          |
| Hawaii                   | 87      | 905     | 1,326   | 1,708   | 2,047   | 2,746   | 3,989   | 3,276   | NA    | 6,408        | 10,126       | 10,511       |
| Idaho                    | 64      | 240     | 362     | 396     | 465     | 658     | 571     | 671     | NA    | 793          | 1,231        | 2,169        |
| Illinois                 | 3,963   | 23,213  | 11,721  | 0       | 21,278  | 24,365  | 15,794  | 10,077  | NA    | 12,304       | 12,934       | 12,949       |
| Indiana                  | 1,681   | 1,475   | 2,747   | 4,939   | 4,782   | 5,010   | 3,001   | 4,318   | NA    | 4,605        | 5,507        | 5,978        |
| Iowa                     | 5,997   | 6,228   | 5,522   | 5,221   | 4,784   | 4,382   | 3,249   | 2,575   | NA    | 2,093        | 1,449        | 1,158        |
| Kansas                   | 613     | 722     | 582     | 635     | 557     | 493     | 435     | 421     | NA    | 1,385        | 1,483        | 3,014        |
| Kentucky                 | 6,951   | 6,633   | 8,931   | 11,660  | 10,963  | 11,819  | 13,902  | 14,173  | NA    | 7,550        | 9,815        | 8,368        |
| Louisiana                | 17,186  | 28,356  | 18,693  | 12,992  | 7,053   | 4,943   | 3,275   | 1,571   | NA    | 3,911        | 1,358        | 989          |
| Maine                    | 7,244   | 10,128  | 12,132  | 5,576   | 14,450  | 19,363  | 14,798  | 20,783  | NA    | 21,640       | 25,887       | 26,133       |
| Maryland                 | 243     | 4,985   | 3,540   | 3,168   | 2,772   | 2,837   | 2,613   | 2,091   | NA    | 1,264        | 908          | 637          |
| Massachusetts            | 0       | 8,569   | 4,366   | 4,661   | 17,390  | 19,464  | 18,601  | 11,727  | NA    | 5,864        | 10,036       | 6,795        |
| Michigan                 | 7,572   | 23,675  | 36,639  | 40,339  | 36,512  | 34,640  | 26,198  | 20,097  | NA    | 18,587       | 19,501       | 19,215       |
| Minnesota                | 734     | 949     | 787     | 427     | 443     | 1,871   | 834     | 832     | NA    | 1,058        | 521          | 354          |
| Mississippi              | 1,558   | 1,663   | 1,369   | 932     | 2,371   | 4,236   | 4,151   | 2,974   | NA    | 1,819        | 1,224        | 952          |
| Missouri                 | 2,067   | 1,105   | 840     | 766     | 735     | 1,633   | 742     | 627     | NA    | 4,777        | 1,150        | 6,510        |
| Montana                  | 1,624   | 1,607   | 1,157   | 1,181   | 1,291   | 1,253   | 988     | 1,909   | NA    | 1,676        | 1,539        | 2,014        |
| Nebraska                 | 438     | 526     | 688     | 878     | 650     | 522     | 496     | 331     | NA    | 707          | 1,181        | 1,947        |
| Nevada                   | 79      | 324     | 487     | 562     | 866     | 685     | 708     | 640     | NA    | 117          | 3,284        | 3,615        |
| New Hampshire            | 351     | 407     | 1,009   | 1,544   | 1,805   | 1,570   | 1,312   | 1,246   | NA    | 1,315        | 1,374        | 827          |
| New Jersey               | 452     | 524     | 580     | 696     | 565     | 567     | 342     | 237     | NA    | 1,541        | 474          | 1,086        |
| New Mexico               | 2,461   | 3,173   | 4,178   | 5,848   | 9,963   | 12,600  | 12,277  | 9,171   | NA    | 7,894        | 7,552        | 3,134        |
| New York                 | 44,221  | 188,182 | 241,477 | 290,856 | 238,856 | 290,922 | 327,123 | 346,089 | NA    | 199,181      | 53,961       | 41,660       |
| North Carolina           | 4,661   | 2,100   | 2,348   | 2,175   | 1,762   | 1,207   | 841     | 569     | NA    | 2,408        | 3,237        | 3,474        |
| North Dakota             | 499     | 313     | 373     | 337     | 398     | 355     | 355     | 220     | NA    | 1,446        | 1,026        | 1,115        |
| Northern Mariana Islands | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | NA    | 1,475        | 3,891        | 2,704        |
| Ohio                     | 11,838  | 11,157  | 18,239  | 37,191  | 46,028  | 40,071  | 29,338  | 23,196  | NA    | 19,058       | 25,880       | 47,801       |
| Oklahoma                 | 0       | 728     | 1,582   | 1,271   | 1,281   | 1,087   | 1,040   | 1,260   | NA    | 3,121        | 1,496        | 3,827        |
| Oregon                   | 1,352   | 3,664   | 3,657   | 4,588   | 6,335   | 7,144   | 8,043   | 7,862   | NA    | 5,901        | 4,863        | 8,335        |
| Pennsylvania             | 13,702  | 79,532  | 85,695  | 97,585  | 94,897  | 100,651 | 99,105  | 92,128  | NA    | 63,713       | 54,251       | 28,728       |
| Puerto Rico              | 2,519   | 5,523   | 4,308   | 3,886   | 3,138   | 3,455   | 4,116   | 3,640   | NA    | 3,870        | 1,783        | 1,210        |
| Rhode Island             | 584     | 1,023   | 960     | 1,483   | 2,002   | 2,808   | 2,728   | 2,100   | NA    | 1,766        | 1,565        | 1,375        |
| South Carolina           | 3,037   | 1,535   | 2,265   | 1,897   | 2,113   | 2,053   | 1,495   | 1,158   | NA    | 2,270        | 2,052        | 1,699        |
| South Dakota             | 1,038   | 542     | 443     | 439     | 362     | 451     | 369     | 221     | NA    | 2,330        | 1,698        | 2,083        |
| Tennessee                | 6,613   | 3,278   | 5,418   | 4,126   | 5,203   | 5,004   | 3,561   | 3,684   | NA    | 4,190        | 6,023        | 5,139        |
| Texas                    | 15,553  | 22,587  | 30,915  | 41,381  | 44,184  | 66,010  | 72,210  | 75,708  | NA    | 121,794      | 121,925      | 117,985      |
| Utah                     | 1,043   | 387     | 1,781   | 6,286   | 4,843   | 3,758   | 3,525   | 5,584   | NA    | 2,880        | 2,061        | 1,242        |
| Vermont                  | 0       | 1,349   | 2,073   | 2,104   | 2,217   | 2,485   | 2,074   | 1,396   | NA    | 1,366        | 1,500        | 2,384        |
| Virgin Islands           | 0       | 0       | 0       | 0       | 38      | 111     | 35      | 13      | NA    | 199          | 106          | 100          |
| Virginia                 | 5,957   | 9,598   | 14,642  | 14,523  | 15,701  | 15,797  | 15,847  | 14,428  | NA    | 10,261       | 7,702        | 4,619        |
| Washington               | 0       | 3,787   | 30,134  | 34,413  | 37,419  | 43,429  | 41,462  | 45,284  | NA    | 27,780       | 27,456       | 29,003       |
| West Virginia            | 481     | 327     | 363     | 322     | 586     | 577     | 657     | 997     | NA    | 488          | 865          | 759          |
| Wisconsin                | 17,555  | 36,444  | 40,515  | 40,942  | 37,380  | 34,903  | 28,209  | 21,937  | NA    | 25,933       | 27,187       | 23,629       |
| Wyoming                  | 500     | 169     | 95      | 94      | 109     | 82      | 56      | 17      | NA    | 21           | 50           | 199          |
| Industry Total           | 206,504 | 513,335 | 639,645 | 743,285 | 737,362 | 837,964 | 823,679 | 808,354 | NA 1/ | 2,195,417 2/ | 1,834,766 2/ | 1,694,945 2/ |

NA - Not Available.

1/ Subscriber data was not actually collected in 1997.

2/ Subscribers are reported for January through December 2000 for companies requesting reimbursement. Only 95% of all eligible companies have reported at this time.

Source: Universal Service Administrative Company (USAC).

**Table 7.4**  
**Lifeline Assistance Annual Payments by State or Jurisdiction**

| State or Jurisdiction    | 1989         | 1990         | 1991         | 1992         | 1993          | 1994          | 1995          | 1996          | 1997          | 1998          | 1999          | 2000          | Cumulative Total |
|--------------------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|------------------|
| Alabama                  | \$0          | \$0          | \$0          | \$0          | \$0           | \$0           | \$56,744      | \$372,371     | \$602,521     | \$1,449,303   | \$1,590,349   | \$1,907,509   | \$5,978,797      |
| Alaska                   | 0            | 0            | 0            | 0            | 0             | 24,330        | 55,101        | 69,116        | 73,941        | 205,701       | 383,225       | 582,693       | 1,394,107        |
| American Samoa           | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 8,167         | 26,893        | 41,388        | 76,448           |
| Arizona                  | 117,744      | 136,518      | 127,419      | 144,290      | 188,216       | 307,699       | 346,595       | 383,752       | 396,391       | 1,606,287     | 1,720,671     | 2,045,764     | 7,521,346        |
| Arkansas                 | 251,116      | 276,742      | 301,087      | 316,837      | 310,979       | 295,293       | 301,808       | 362,497       | 374,881       | 585,933       | 594,392       | 596,488       | 4,568,053        |
| California               | 29,082,569   | 32,228,252   | 36,072,671   | 40,381,514   | 47,512,283    | 52,461,134    | 57,460,181    | 62,231,440    | 63,011,988    | 244,372,788   | 249,506,436   | 264,488,604   | 1,178,809,860    |
| Colorado                 | 405,491      | 173,248      | 751,056      | 843,519      | 802,077       | 775,750       | 727,801       | 829,354       | 942,972       | 1,861,235     | 2,077,456     | 2,407,587     | 12,597,546       |
| Connecticut              | 0            | 0            | 0            | 0            | 57,033        | 1,493,569     | 2,586,972     | 2,660,608     | 2,590,702     | 3,660,711     | 4,344,924     | 4,895,998     | 22,290,517       |
| Delaware                 | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 23,198        | 38,185        | 51,796        | 113,179          |
| District of Columbia     | 112,180      | 99,980       | 90,500       | 128,348      | 312,684       | 429,396       | 313,998       | 293,322       | 318,368       | 769,414       | 876,337       | 952,218       | 4,696,745        |
| Florida                  | 0            | 0            | 0            | 0            | 0             | 1,290,282     | 4,396,137     | 5,191,213     | 5,448,368     | 10,368,040    | 10,962,971    | 11,943,361    | 49,600,372       |
| Georgia                  | 0            | 0            | 794,088      | 2,247,925    | 2,764,461     | 3,003,777     | 3,315,787     | 3,383,638     | 3,164,320     | 6,187,332     | 6,313,688     | 6,461,239     | 37,636,255       |
| Guam                     | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 18,061        | 68,177        | 170,743       | 256,981          |
| Hawaii                   | 203,052      | 198,943      | 186,490      | 182,555      | 190,166       | 196,554       | 202,107       | 273,471       | 271,524       | 551,150       | 805,625       | 1,074,352     | 4,335,989        |
| Idaho                    | 328,732      | 347,270      | 358,515      | 355,127      | 349,344       | 328,583       | 321,830       | 320,845       | 311,156       | 576,367       | 1,306,602     | 1,823,306     | 6,727,677        |
| Illinois                 | 0            | 18           | 414,457      | 0            | 0             | 0             | 0             | 0             | 0             | 1,856,606     | 3,285,371     | 4,419,690     | 9,976,142        |
| Indiana                  | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 795,195       | 1,231,284     | 1,205,989     | 3,232,468        |
| Iowa                     | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 161,566       | 409,513       | 751,517       | 1,322,596        |
| Kansas                   | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 38            | 340,226       | 474,877       | 779,530       | 1,594,671        |
| Kentucky                 | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 315,271       | 2,128,575     | 3,482,650     | 5,926,496        |
| Louisiana                | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 379,066       | 681,067       | 1,071,618     | 2,131,751        |
| Maine                    | 1,324,559    | 1,720,591    | 2,165,485    | 2,605,855    | 2,902,206     | 2,959,351     | 2,652,482     | 2,737,366     | 2,669,234     | 5,338,338     | 5,711,223     | 6,750,824     | 39,537,514       |
| Maryland                 | 120,042      | 220,346      | 216,947      | 213,303      | 221,574       | 218,052       | 211,819       | 180,079       | 166,473       | 317,814       | 326,288       | 352,177       | 2,764,914        |
| Massachusetts            | 0            | 2,552,254    | 5,126,945    | 5,996,798    | 6,598,801     | 7,064,939     | 7,146,757     | 6,952,050     | 6,564,336     | 13,628,125    | 14,207,842    | 14,821,315    | 90,660,112       |
| Michigan                 | 433,487      | 1,348,992    | 2,163,526    | 2,742,396    | 3,081,708     | 3,351,293     | 3,288,234     | 3,203,533     | 3,104,079     | 9,761,204     | 10,059,023    | 11,399,192    | 53,936,667       |
| Minnesota                | 1,658,815    | 2,256,567    | 2,416,108    | 2,258,780    | 2,295,299     | 2,332,178     | 2,170,211     | 2,080,597     | 1,998,168     | 3,534,194     | 3,471,610     | 3,650,772     | 30,123,299       |
| Mississippi              | 0            | 0            | 16,962       | 29,506       | 109,841       | 339,633       | 399,633       | 401,106       | 349,468       | 887,098       | 1,136,422     | 1,489,290     | 5,158,959        |
| Missouri                 | 633,736      | 620,605      | 648,102      | 711,138      | 699,011       | 653,539       | 590,212       | 486,547       | 435,466       | 551,102       | 754,501       | 1,466,029     | 8,249,988        |
| Montana                  | 192,095      | 234,696      | 228,885      | 234,046      | 266,870       | 281,441       | 290,312       | 328,627       | 319,745       | 677,995       | 824,313       | 932,381       | 4,811,406        |
| Nebraska                 | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 619,118       | 820,980       | 1,225,081     | 2,665,179        |
| Nevada                   | 113,400      | 122,289      | 134,038      | 147,595      | 172,658       | 194,440       | 206,654       | 196,662       | 215,016       | 214,714       | 754,020       | 1,319,500     | 3,790,986        |
| New Hampshire            | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 162,362       | 331,956       | 443,404       | 937,722          |
| New Jersey               | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 343,979       | 404,857       | 2,026,134     | 2,774,970        |
| New Mexico               | 465,455      | 528,392      | 615,450      | 744,810      | 1,167,110     | 1,357,828     | 1,216,787     | 1,264,979     | 1,273,169     | 2,620,225     | 2,875,410     | 3,170,204     | 17,299,819       |
| New York                 | 8,917,964    | 11,253,994   | 15,649,754   | 18,295,637   | 20,970,135    | 23,844,744    | 27,188,016    | 30,924,772    | 29,327,216    | 54,776,809    | 51,473,090    | 48,410,705    | 341,032,836      |
| North Carolina           | 681,469      | 637,444      | 647,593      | 875,130      | 962,905       | 1,003,092     | 922,046       | 972,403       | 948,969       | 2,443,601     | 3,755,587     | 5,637,945     | 19,488,184       |
| North Dakota             | 159          | 299,829      | 438,302      | 447,187      | 421,896       | 412,255       | 378,733       | 333,434       | 309,496       | 876,274       | 960,538       | 1,016,245     | 5,894,348        |
| Northern Mariana Islands | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 10,659        | 30,391        | 29,576        | 70,626           |
| Ohio                     | 643,659      | 643,996      | 650,084      | 1,304,827    | 1,963,353     | 2,293,070     | 2,409,791     | 2,366,359     | 2,535,383     | 5,390,963     | 8,113,627     | 13,118,285    | 41,433,397       |
| Oklahoma                 | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 10            | 900           | 106,526       | 173,816       | 800,828       | 1,082,080        |
| Oregon                   | 891,600      | 894,729      | 944,221      | 1,044,746    | 1,175,398     | 1,262,606     | 1,499,920     | 1,479,004     | 1,310,954     | 2,381,568     | 2,484,518     | 2,750,033     | 18,119,297       |
| Pennsylvania             | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 87,639        | 298,771       | 1,742,564     | 3,043,969     | 3,941,186     | 9,114,129        |
| Puerto Rico              | 0            | 0            | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 587,156       | 1,064,389     | 1,116,360     | 2,767,905        |
| Rhode Island             | 571,349      | 643,660      | 960,213      | 1,111,414    | 1,487,776     | 1,693,628     | 1,713,982     | 1,772,985     | 1,843,008     | 3,776,998     | 3,898,361     | 4,191,937     | 23,665,311       |
| South Carolina           | 0            | 0            | 0            | 0            | 0             | 264,326       | 647,296       | 772,226       | 772,226       | 1,825,532     | 1,735,670     | 1,776,712     | 7,021,762        |
| South Dakota             | 190,399      | 201,953      | 207,281      | 211,499      | 214,402       | 160,110       | 156,115       | 152,834       | 155,737       | 674,584       | 742,425       | 875,153       | 3,942,492        |
| Tennessee                | 0            | 0            | 0            | 506,187      | 844,079       | 881,488       | 837,524       | 841,342       | 790,409       | 1,874,811     | 2,527,805     | 3,385,607     | 12,489,252       |
| Texas                    | 800,535      | 1,120,002    | 1,736,759    | 3,576,193    | 4,181,609     | 5,335,092     | 6,723,118     | 7,776,103     | 8,124,667     | 17,624,701    | 20,341,821    | 23,137,460    | 100,478,060      |
| Utah                     | 381,945      | 609,049      | 874,025      | 1,161,879    | 1,203,870     | 1,208,738     | 1,179,200     | 1,057,483     | 950,263       | 1,699,274     | 1,665,098     | 1,771,270     | 13,762,094       |
| Vermont                  | 691,848      | 755,646      | 858,766      | 924,333      | 979,697       | 1,041,838     | 1,094,178     | 1,039,649     | 1,064,932     | 2,214,987     | 2,403,381     | 2,645,685     | 15,714,940       |
| Virgin Islands           | 0            | 0            | 0            | 0            | 5,753         | 29,075        | 22,459        | 14,293        | 19,779        | 49,229        | 40,225        | 44,910        | 225,723          |
| Virginia                 | 599,744      | 669,972      | 704,087      | 782,585      | 907,400       | 920,012       | 912,437       | 911,374       | 973,851       | 1,789,384     | 1,860,517     | 1,910,157     | 12,941,520       |
| Washington               | 858,824      | 1,474,869    | 2,199,086    | 2,524,658    | 2,997,455     | 2,966,094     | 2,813,846     | 2,743,597     | 2,686,537     | 4,182,773     | 4,962,458     | 6,131,336     | 36,541,533       |
| West Virginia            | 206,163      | 192,927      | 181,082      | 175,309      | 188,356       | 206,594       | 190,638       | 176,422       | 216,891       | 367,974       | 383,484       | 393,823       | 2,879,663        |
| Wisconsin                | 117          | 234          | 217,958      | 482,544      | 521,821       | 617,261       | 676,880       | 653,204       | 610,732       | 2,768,442     | 3,882,741     | 4,459,226     | 14,891,160       |
| Wyoming                  | 0            | 0            | 5,833        | 57,652       | 54,640        | 49,077        | 36,101        | 33,007        | 36,306        | 93,464        | 113,024       | 122,227       | 601,331          |
| Industry Total           | \$50,878,248 | \$62,464,007 | \$79,103,725 | \$93,766,122 | \$109,082,866 | \$123,283,835 | \$137,277,472 | \$148,186,383 | \$147,579,351 | \$422,006,158 | \$446,161,998 | \$487,867,009 | \$2,307,657,174  |

1/ Payments are final and not subject to further adjustment.

2/ Dollars reported are for companies requesting reimbursement. Approximately 99% have reported at this time. Data include true-ups submitted through April 2001. Lifeline dollars for 1998, 1999, and 2000 include toll-limitation services (TLS) and presubscribed interexchange carrier charges (PICCs).

Source: Universal Service Administrative Company (USAC).



**Table 7.5**  
**LinkUp Assistance Annual Payments by State or Jurisdiction**

| State or Jurisdiction    | 1989                  | 1990                   | 1991                   | 1992                   | 1993                   | 1994                   | 1995                   | 1996                   | 1997                   | 1998                   | 1999                   | 2000                   | Cumulative Total     |
|--------------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|----------------------|
| Alabama                  | \$36,757              | \$41,125               | \$47,246               | \$30,322               | \$16,881               | \$7,021                | \$5,467                | \$6,661                | \$9,738                | \$37,868               | \$28,882               | \$28,540               | \$296,508            |
| Alaska                   | 0                     | 0                      | 0                      | 0                      | 0                      | 8,541                  | 16,530                 | 14,673                 | 10,485                 | 18,647                 | 24,494                 | 15,766                 | 109,136              |
| American Samoa           | NA                    | NA                     | NA                     | NA                     | NA                     | NA                     | NA                     | NA                     | NA                     | 3,660                  | 2,670                  | 1,590                  | 7,920                |
| Arizona                  | 2,815                 | 9,260                  | 4,792                  | 2,054                  | 6,000                  | 8,533                  | 23,340                 | 22,359                 | 23,234                 | 12,473                 | 112,999                | 106,410                | 334,269              |
| Arkansas                 | 92,263                | 102,651                | 128,727                | 152,380                | 304,253                | 337,111                | 164,617                | 232,383                | 221,128                | 142,354                | 101,090                | 61,903                 | 2,040,860            |
| California               | 0                     | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 28,628,622             | 24,003,283             | 20,961,605             | 73,593,510           |
| Colorado                 | 0                     | 15,586                 | 47,146                 | 43,867                 | 34,417                 | 15,065                 | 10,498                 | 38,773                 | 48,230                 | 44,545                 | 22,506                 | 19,572                 | 340,205              |
| Connecticut              | 51,674                | 66,848                 | 125,749                | 169,970                | 205,974                | 386,459                | 414,224                | 313,522                | 256,225                | 201,089                | 153,651                | 99,947                 | 2,445,332            |
| Delaware                 | 0                     | 0                      | 0                      | 0                      | 0                      | 0                      | 126                    | 7,308                  | 8,268                  | 2,376                  | 1,116                  | 864                    | 20,058               |
| District of Columbia     | 8,955                 | 7,909                  | 7,848                  | 17,611                 | 27,500                 | 22,288                 | 27,760                 | 27,102                 | 27,399                 | 400                    | 430                    | 46                     | 175,248              |
| Florida                  | 85,917                | 76,242                 | 82,224                 | 113,225                | 69,296                 | 73,744                 | 88,707                 | 100,275                | 87,753                 | 196,450                | 188,233                | 202,121                | 1,364,187            |
| Georgia                  | 0                     | 0                      | 277,968                | 604,321                | 461,379                | 449,418                | 444,097                | 330,076                | 146,239                | 204,709                | 167,716                | 85,708                 | 3,171,631            |
| Guam                     | 0                     | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 3,521                  | 12,304                 | 13,775                 | 29,600               |
| Hawaii                   | 1,968                 | 13,660                 | 14,969                 | 19,168                 | 24,428                 | 33,051                 | 46,507                 | 37,856                 | 34,115                 | 145,251                | 229,187                | 237,604                | 837,764              |
| Idaho                    | 839                   | 4,136                  | 5,860                  | 6,407                  | 7,418                  | 10,578                 | 8,985                  | 9,861                  | 18,754                 | 11,539                 | 16,029                 | 31,130                 | 131,536              |
| Illinois                 | 106,872               | 628,664                | 320,216                | 0                      | 555,206                | 617,419                | 477,288                | 282,633                | 232,685                | 318,391                | 332,878                | 330,179                | 4,202,431            |
| Indiana                  | 36,987                | 35,646                 | 63,398                 | 119,317                | 112,484                | 117,045                | 71,478                 | 40,189                 | 58,703                 | 103,940                | 127,536                | 173,754                | 1,060,477            |
| Iowa                     | 107,881               | 115,069                | 99,478                 | 92,333                 | 81,214                 | 74,162                 | 56,111                 | 40,437                 | 18,771                 | 29,421                 | 21,116                 | 18,927                 | 754,920              |
| Kansas                   | 11,367                | 14,320                 | 10,914                 | 11,530                 | 10,673                 | 9,573                  | 8,141                  | 8,429                  | 35,655                 | 26,737                 | 28,662                 | 58,456                 | 234,457              |
| Kentucky                 | 168,846               | 174,698                | 191,793                | 245,518                | 233,258                | 262,990                | 263,666                | 274,776                | 175,728                | 143,852                | 186,399                | 156,138                | 2,477,662            |
| Louisiana                | 490,741               | 838,721                | 551,215                | 386,163                | 210,409                | 147,015                | 76,603                 | 38,121                 | 15,288                 | 74,074                 | 26,208                 | 20,876                 | 2,875,434            |
| Maine                    | 160,899               | 222,351                | 271,175                | 120,532                | 321,595                | 430,941                | 327,363                | 461,108                | 522,810                | 477,470                | 574,103                | 580,616                | 4,470,963            |
| Maryland                 | 5,840                 | 118,647                | 85,142                 | 81,999                 | 71,223                 | 52,782                 | 63,008                 | 50,178                 | 46,278                 | 30,336                 | 21,760                 | 15,289                 | 642,482              |
| Massachusetts            | 0                     | 140,028                | 76,355                 | 86,415                 | 322,410                | 366,427                | 344,862                | 217,417                | 131,948                | 108,720                | 186,067                | 123,288                | 2,103,937            |
| Michigan                 | 172,430               | 501,015                | 761,801                | 840,265                | 786,106                | 720,903                | 472,243                | 224,317                | 477,688                | 384,073                | 405,941                | 400,017                | 6,146,799            |
| Minnesota                | 11,131                | 11,455                 | 12,644                 | 12,660                 | 38,742                 | 35,475                 | 8,435                  | 7,622                  | 14,189                 | 15,793                 | 6,078                  | 4,431                  | 178,655              |
| Mississippi              | 39,512                | 29,533                 | 26,277                 | 17,743                 | 45,472                 | 81,156                 | 94,989                 | 67,873                 | 31,033                 | 38,302                 | 24,647                 | 20,981                 | 517,518              |
| Missouri                 | 42,064                | 19,760                 | 14,615                 | 17,047                 | 27,775                 | 23,702                 | 12,190                 | 10,308                 | 9,880                  | 83,766                 | 18,640                 | 116,109                | 395,856              |
| Montana                  | 35,833                | 35,615                 | 25,154                 | 25,074                 | 26,475                 | 19,726                 | 13,413                 | 24,502                 | 24,304                 | 22,356                 | 20,819                 | 29,283                 | 302,554              |
| Nebraska                 | 6,996                 | 7,964                  | 11,267                 | 15,382                 | 11,950                 | 9,001                  | 6,892                  | 5,253                  | 4,391                  | 9,542                  | 17,312                 | 28,993                 | 134,943              |
| Nevada                   | 390                   | 3,004                  | 9,338                  | 10,999                 | 15,107                 | 11,838                 | 11,691                 | 13,445                 | 8,605                  | 1,902                  | 55,557                 | 61,441                 | 203,317              |
| New Hampshire            | 7,107                 | 8,510                  | 21,420                 | 36,328                 | 44,199                 | 42,146                 | 32,147                 | 30,530                 | 31,583                 | 26,155                 | 26,750                 | 16,111                 | 322,986              |
| New Jersey               | 9,232                 | 10,755                 | 12,054                 | 14,502                 | 11,745                 | 11,814                 | 8,106                  | 4,995                  | 3,844                  | 33,071                 | 10,043                 | 22,951                 | 153,112              |
| New Mexico               | 61,605                | 79,198                 | 107,467                | 152,371                | 304,961                | 262,693                | 131,859                | 137,238                | 128,193                | 116,668                | 114,304                | 44,316                 | 1,640,873            |
| New York                 | 1,026,301             | 4,483,514              | 5,962,604              | 6,611,528              | 7,243,113              | 8,120,361              | 8,972,155              | 9,586,748              | 5,604,194              | 5,480,654              | 1,470,599              | 1,130,276              | 65,692,047           |
| North Carolina           | 66,490                | 31,302                 | 33,805                 | 32,761                 | 24,042                 | 19,718                 | 13,958                 | 9,510                  | 8,720                  | 38,545                 | 51,344                 | 55,486                 | 385,681              |
| North Dakota             | 7,493                 | 5,082                  | 6,182                  | 5,713                  | 6,682                  | 5,534                  | 5,636                  | 3,491                  | 17,922                 | 23,026                 | 16,357                 | 17,665                 | 120,783              |
| Northern Mariana Islands | 0                     | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 5,887                  | 11,435                 | 8,879                  | 26,201               |
| Ohio                     | 226,194               | 204,433                | 311,997                | 650,806                | 775,582                | 690,334                | 515,674                | 394,796                | 374,183                | 322,012                | 422,074                | 806,733                | 5,694,818            |
| Oklahoma                 | 0                     | 15,826                 | 35,077                 | 27,986                 | 28,251                 | 23,936                 | 20,142                 | 22,082                 | 33,908                 | 47,878                 | 30,464                 | 80,619                 | 366,169              |
| Oregon                   | 10,643                | 23,262                 | 22,801                 | 31,834                 | 46,035                 | 54,485                 | 57,728                 | 53,338                 | 51,816                 | 46,222                 | 39,955                 | 76,671                 | 514,790              |
| Pennsylvania             | 273,123               | 1,592,565              | 1,743,115              | 1,976,702              | 1,904,903              | 2,022,887              | 1,969,372              | 1,850,064              | 1,735,564              | 1,257,631              | 1,043,649              | 531,581                | 17,901,156           |
| Puerto Rico              | 44,084                | 91,784                 | 72,561                 | 65,986                 | 54,826                 | 57,950                 | 69,244                 | 76,381                 | 83,138                 | 68,116                 | 31,208                 | 22,598                 | 737,876              |
| Rhode Island             | 8,498                 | 14,527                 | 13,634                 | 21,059                 | 28,427                 | 38,416                 | 45,309                 | 35,531                 | 25,226                 | 26,478                 | 29,878                 | 23,267                 | 310,250              |
| South Carolina           | 62,420                | 38,303                 | 34,894                 | 36,759                 | 40,434                 | 38,405                 | 30,035                 | 21,851                 | 19,639                 | 42,591                 | 39,047                 | 32,120                 | 436,498              |
| South Dakota             | 18,167                | 9,368                  | 7,755                  | 7,685                  | 6,349                  | 5,641                  | 4,614                  | 2,765                  | 2,257                  | 29,490                 | 22,426                 | 30,466                 | 146,983              |
| Tennessee                | 137,758               | 73,824                 | 62,690                 | 69,673                 | 86,711                 | 85,071                 | 89,617                 | 60,589                 | 22,082                 | 78,322                 | 108,680                | 106,034                | 981,051              |
| Texas                    | 424,313               | 636,839                | 591,565                | 811,837                | 825,340                | 1,258,838              | 1,371,343              | 1,632,153              | 1,517,075              | 2,244,255              | 2,325,072              | 2,257,220              | 15,895,850           |
| Utah                     | 18,515                | 6,870                  | 31,614                 | 111,578                | 85,963                 | 35,478                 | 32,798                 | 74,404                 | 53,213                 | 36,078                 | 25,804                 | 15,404                 | 527,719              |
| Vermont                  | 0                     | 22,132                 | 34,041                 | 34,358                 | 36,314                 | 40,478                 | 34,039                 | 24,863                 | 19,126                 | 24,174                 | 26,545                 | 42,223                 | 338,293              |
| Virgin Islands           | 0                     | 0                      | 0                      | 0                      | 1,012                  | 2,584                  | 1,001                  | 317                    | 1,392                  | 2,005                  | 1,004                  | 1,763                  | 11,078               |
| Virginia                 | 122,944               | 173,149                | 267,462                | 289,381                | 323,486                | 248,128                | 292,190                | 269,695                | 267,013                | 183,002                | 141,017                | 86,434                 | 2,663,901            |
| Washington               | 1,179                 | 59,277                 | 467,920                | 532,652                | 561,632                | 668,199                | 693,528                | 676,482                | 623,757                | 417,353                | 424,733                | 494,540                | 5,621,252            |
| West Virginia            | 8,050                 | 7,002                  | 7,878                  | 7,366                  | 11,983                 | 16,145                 | 15,119                 | 14,508                 | 16,102                 | 8,966                  | 12,814                 | 10,024                 | 135,957              |
| Wisconsin                | 256,423               | 526,066                | 581,758                | 569,079                | 537,514                | 490,668                | 426,278                | 356,626                | 370,939                | 378,836                | 450,289                | 537,180                | 5,481,656            |
| Wyoming                  | 10,098                | 3,510                  | 1,865                  | 1,934                  | 2,180                  | 1,449                  | 938                    | 342                    | 400                    | 338                    | 893                    | 3,609                  | 27,556               |
| <b>Industry Total</b>    | <b>\$4,479,614 1/</b> | <b>\$11,351,005 1/</b> | <b>\$13,705,470 1/</b> | <b>\$15,342,180 1/</b> | <b>\$17,019,329 1/</b> | <b>\$18,573,322 1/</b> | <b>\$18,392,061 1/</b> | <b>\$18,246,756 1/</b> | <b>\$13,710,810 1/</b> | <b>\$42,463,332 1/</b> | <b>\$33,991,297 2/</b> | <b>\$30,459,529 2/</b> | <b>\$237,734,705</b> |

NA - Not Available.

1/ Payments are final and are not subject to further adjustment.

2/ Dollars reported are for companies requesting reimbursement. Approximately 99% have reported at this time. Data includes true-ups through April 2001.

Source: Universal Service Administrative Company (USAC).

**Table 7.6**  
**Universal Service Payments**  
**(January 1998 - December 1998)**

| State or Jurisdiction    | Lifeline<br>Non-Tribal | LinkUp<br>Non-Tribal | TLS                | PICCs              | Total                |
|--------------------------|------------------------|----------------------|--------------------|--------------------|----------------------|
| Alabama                  | \$1,430,879            | \$37,868             | \$2,119            | \$16,305           | \$1,487,171          |
| Alaska                   | 191,057                | 18,647               | 14,584             | 60                 | 224,348              |
| American Samoa           | 8,167                  | 3,660                | 0                  | 0                  | 11,827               |
| Arizona                  | 1,591,648              | 12,473               | 13,621             | 1,018              | 1,618,760            |
| Arkansas                 | 579,956                | 142,354              | 2,837              | 3,140              | 728,287              |
| California               | 241,532,455            | 28,628,622           | 2,077,337          | 762,996            | 273,001,410          |
| Colorado                 | 1,834,312              | 44,545               | 18,578             | 8,345              | 1,905,780            |
| Connecticut              | 3,611,946              | 201,089              | 27,447             | 21,318             | 3,861,800            |
| Delaware                 | 23,198                 | 2,376                | 0                  | 0                  | 25,574               |
| District of Columbia     | 769,414                | 400                  | 0                  | 0                  | 769,814              |
| Florida                  | 10,286,854             | 196,450              | 10,707             | 70,479             | 10,564,490           |
| Georgia                  | 6,129,384              | 204,709              | 8,052              | 49,896             | 6,392,041            |
| Guam                     | 18,061                 | 3,521                | 0                  | 0                  | 21,582               |
| Hawaii                   | 551,000                | 145,251              | 0                  | 150                | 696,401              |
| Idaho                    | 571,493                | 11,539               | 3,877              | 997                | 587,906              |
| Illinois                 | 1,838,320              | 318,391              | 995                | 17,291             | 2,174,997            |
| Indiana                  | 783,774                | 103,940              | 1,533              | 9,888              | 899,135              |
| Iowa                     | 148,518                | 29,421               | 11,232             | 1,816              | 190,987              |
| Kansas                   | 337,249                | 26,737               | 993                | 1,984              | 366,963              |
| Kentucky                 | 305,764                | 143,852              | 4,200              | 5,307              | 459,123              |
| Louisiana                | 366,776                | 74,074               | 1,433              | 10,857             | 453,140              |
| Maine                    | 5,299,276              | 477,470              | 19,660             | 19,402             | 5,815,808            |
| Maryland                 | 317,814                | 30,336               | 0                  | 0                  | 348,150              |
| Massachusetts            | 13,572,243             | 108,720              | 0                  | 55,882             | 13,736,845           |
| Michigan                 | 9,678,929              | 384,073              | 8,773              | 73,502             | 10,145,277           |
| Minnesota                | 3,530,029              | 15,793               | 3,233              | 932                | 3,549,987            |
| Mississippi              | 876,569                | 38,302               | 1,234              | 9,295              | 925,400              |
| Missouri                 | 545,925                | 83,766               | 2,683              | 2,494              | 634,868              |
| Montana                  | 665,529                | 22,356               | 10,524             | 1,942              | 700,351              |
| Nebraska                 | 603,067                | 9,542                | 12,640             | 3,411              | 628,660              |
| Nevada                   | 214,291                | 1,902                | 410                | 13                 | 216,616              |
| New Hampshire            | 161,489                | 26,155               | 0                  | 873                | 188,517              |
| New Jersey               | 343,628                | 33,071               | 351                | 0                  | 377,050              |
| New Mexico               | 2,517,906              | 116,668              | 70,603             | 31,716             | 2,736,893            |
| New York                 | 53,807,308             | 5,480,654            | 74                 | 969,427            | 60,257,463           |
| North Carolina           | 2,427,820              | 38,545               | 2,416              | 13,365             | 2,482,146            |
| North Dakota             | 861,146                | 23,026               | 10,603             | 4,525              | 899,300              |
| Northern Mariana Islands | 10,659                 | 5,887                | 0                  | 0                  | 16,546               |
| Ohio                     | 5,270,380              | 322,012              | 21,328             | 99,255             | 5,712,975            |
| Oklahoma                 | 104,566                | 47,878               | 883                | 1,077              | 154,404              |
| Oregon                   | 2,351,543              | 46,222               | 19,739             | 10,286             | 2,427,790            |
| Pennsylvania             | 1,741,674              | 1,257,631            | 90                 | 800                | 3,000,195            |
| Puerto Rico              | 587,156                | 68,116               | 0                  | 0                  | 655,272              |
| Rhode Island             | 3,753,152              | 29,878               | 0                  | 23,846             | 3,806,876            |
| South Carolina           | 1,798,292              | 42,591               | 6,134              | 21,106             | 1,868,123            |
| South Dakota             | 656,428                | 29,490               | 14,889             | 3,267              | 704,074              |
| Tennessee                | 1,863,198              | 78,322               | 1,364              | 10,249             | 1,953,133            |
| Texas                    | 17,082,669             | 2,244,255            | 173,804            | 368,228            | 19,868,956           |
| Utah                     | 1,665,232              | 36,078               | 24,856             | 9,186              | 1,735,352            |
| Vermont                  | 2,211,542              | 24,174               | 487                | 2,958              | 2,239,161            |
| Virgin Islands           | 49,229                 | 2,005                | 0                  | 0                  | 51,234               |
| Virginia                 | 1,788,279              | 183,002              | 478                | 627                | 1,972,386            |
| Washington               | 4,059,632              | 417,353              | 89,905             | 33,236             | 4,600,126            |
| West Virginia            | 367,951                | 8,966                | 0                  | 23                 | 376,940              |
| Wisconsin                | 2,716,657              | 378,836              | 3,037              | 48,748             | 3,147,278            |
| Wyoming                  | 92,881                 | 338                  | 456                | 127                | 93,802               |
| <b>Industry Total</b>    | <b>\$416,504,314</b>   | <b>\$42,463,332</b>  | <b>\$2,700,199</b> | <b>\$2,801,645</b> | <b>\$464,469,490</b> |

Note: These dollars represent submitted claims to USAC for the time period January 1998 through December 1998, including true-ups reported to date. Verizon-NJ and Sprint-NJ were granted Eligible Telecommunications Carrier (ETC) status retroactive to January 1998. Nevada Bell did not receive ETC status until December 1998 and began reporting Lifeline starting in January 1999.

Source: Universal Service Administration Company (USAC).

**Table 7.6**  
**Universal Service Payments - Continued**  
**(January 1999 - December 1999)**

| State or Jurisdiction    | Lifeline<br>Non-Tribal | LinkUp<br>Non-Tribal | TLS                | PICCs              | Total                |
|--------------------------|------------------------|----------------------|--------------------|--------------------|----------------------|
| Alabama                  | \$1,563,850            | \$28,882             | \$2,175            | \$24,324           | \$1,619,231          |
| Alaska                   | 353,682                | 24,494               | 29,075             | 468                | 407,719              |
| American Samoa           | 26,893                 | 2,670                | 0                  | 0                  | 29,563               |
| Arizona                  | 1,618,554              | 112,999              | 69,449             | 32,668             | 1,833,670            |
| Arkansas                 | 584,481                | 101,090              | 2,315              | 7,596              | 695,482              |
| California               | 246,181,577            | 24,003,283           | 2,268,441          | 1,056,418          | 273,509,719          |
| Colorado                 | 2,015,411              | 22,506               | 37,514             | 24,531             | 2,099,962            |
| Connecticut              | 4,298,141              | 153,651              | 22,820             | 23,963             | 4,498,575            |
| Delaware                 | 38,185                 | 1,116                | 0                  | 0                  | 39,301               |
| District of Columbia     | 876,337                | 430                  | 0                  | 0                  | 876,767              |
| Florida                  | 10,838,023             | 188,233              | 16,581             | 108,367            | 11,151,204           |
| Georgia                  | 6,213,460              | 167,716              | 10,594             | 89,634             | 6,481,404            |
| Guam                     | 68,177                 | 12,304               | 0                  | 0                  | 80,481               |
| Hawaii                   | 797,072                | 229,187              | 3,520              | 5,033              | 1,034,812            |
| Idaho                    | 1,264,737              | 16,029               | 24,355             | 17,510             | 1,322,631            |
| Illinois                 | 3,236,547              | 332,878              | 2,085              | 46,739             | 3,618,249            |
| Indiana                  | 1,204,783              | 127,536              | 2,801              | 23,700             | 1,358,820            |
| Iowa                     | 384,652                | 21,116               | 15,981             | 8,880              | 430,629              |
| Kansas                   | 465,671                | 28,662               | 2,279              | 6,927              | 503,539              |
| Kentucky                 | 2,091,160              | 186,399              | 9,103              | 28,312             | 2,314,974            |
| Louisiana                | 656,564                | 26,208               | 1,985              | 22,518             | 707,275              |
| Maine                    | 5,646,395              | 574,103              | 8,086              | 56,742             | 6,285,326            |
| Maryland                 | 326,288                | 21,760               | 0                  | 0                  | 348,048              |
| Massachusetts            | 14,086,751             | 186,067              | 0                  | 121,091            | 14,393,909           |
| Michigan                 | 9,933,108              | 405,941              | 9,234              | 116,681            | 10,464,964           |
| Minnesota                | 3,454,859              | 6,078                | 10,887             | 5,864              | 3,477,688            |
| Mississippi              | 1,114,842              | 24,647               | 2,003              | 19,577             | 1,161,069            |
| Missouri                 | 740,625                | 18,640               | 4,310              | 9,566              | 773,141              |
| Montana                  | 800,802                | 20,819               | 18,143             | 5,368              | 845,132              |
| Nebraska                 | 797,127                | 17,312               | 15,183             | 8,670              | 838,292              |
| Nevada                   | 747,742                | 55,557               | 2,562              | 3,716              | 809,577              |
| New Hampshire            | 327,542                | 26,750               | 0                  | 4,414              | 358,706              |
| New Jersey               | 404,504                | 10,043               | 353                | 0                  | 414,900              |
| New Mexico               | 2,727,036              | 114,304              | 80,826             | 67,548             | 2,989,714            |
| New York                 | 50,318,021             | 1,470,599            | 3,613              | 1,151,456          | 52,943,689           |
| North Carolina           | 3,721,083              | 51,344               | 5,429              | 29,075             | 3,806,931            |
| North Dakota             | 935,573                | 16,357               | 15,270             | 9,695              | 976,895              |
| Northern Mariana Islands | 30,391                 | 11,435               | 0                  | 0                  | 41,826               |
| Ohio                     | 7,842,922              | 422,074              | 39,250             | 231,455            | 8,535,701            |
| Oklahoma                 | 169,874                | 30,464               | 1,166              | 2,776              | 204,280              |
| Oregon                   | 2,437,301              | 39,955               | 20,675             | 26,542             | 2,524,473            |
| Pennsylvania             | 3,042,089              | 1,043,649            | 28                 | 1,852              | 4,087,618            |
| Puerto Rico              | 1,064,389              | 31,208               | 0                  | 0                  | 1,095,597            |
| Rhode Island             | 3,851,306              | 26,478               | 0                  | 47,055             | 3,924,839            |
| South Carolina           | 1,696,546              | 39,047               | 10,849             | 28,275             | 1,774,717            |
| South Dakota             | 723,332                | 22,426               | 9,546              | 9,547              | 764,851              |
| Tennessee                | 2,491,886              | 108,680              | 7,171              | 28,748             | 2,636,485            |
| Texas                    | 19,380,081             | 2,325,072            | 203,308            | 758,432            | 22,666,893           |
| Utah                     | 1,615,497              | 25,804               | 31,258             | 18,343             | 1,690,902            |
| Vermont                  | 2,392,069              | 26,545               | 2,779              | 8,533              | 2,429,926            |
| Virgin Islands           | 40,225                 | 1,004                | 0                  | 0                  | 41,229               |
| Virginia                 | 1,858,516              | 141,017              | 751                | 1,250              | 2,001,534            |
| Washington               | 4,782,832              | 424,733              | 105,612            | 74,014             | 5,387,191            |
| West Virginia            | 382,514                | 12,814               | 871                | 99                 | 396,298              |
| Wisconsin                | 3,802,028              | 450,289              | 4,985              | 75,728             | 4,333,030            |
| Wyoming                  | 111,837                | 893                  | 794                | 393                | 113,917              |
| <b>Industry Total</b>    | <b>\$438,575,890</b>   | <b>\$33,991,297</b>  | <b>\$3,136,015</b> | <b>\$4,450,093</b> | <b>\$480,153,295</b> |

Note: These dollars represent submitted claims to USAC for the time period January 1999 through December 1999, including true-ups reported to date.

Source: Universal Service Administration Company (USAC).

**Table 7.6**  
**Universal Service Payments - Continued**  
**January 2000 - December 2000**

| State or Jurisdiction    | Lifeline             |                  | LinkUp              |                 | TLS                | PICCs              | Total                |
|--------------------------|----------------------|------------------|---------------------|-----------------|--------------------|--------------------|----------------------|
|                          | Non-Tribal           | Tribal           | Non-Tribal          | Tribal          |                    |                    |                      |
| Alabama                  | \$1,887,401          | \$0              | \$28,540            | \$0             | \$2,528            | \$17,580           | \$1,936,049          |
| Alaska                   | 504,720              | 58,392           | 12,193              | 3,573           | 18,949             | 632                | 598,459              |
| American Samoa           | 41,388               | -                | 1,590               | -               | -                  | -                  | 42,978               |
| Arizona                  | 1,898,881            | 32,801           | 101,134             | 5,276           | 81,773             | 32,309             | 2,152,174            |
| Arkansas                 | 586,944              | -                | 61,903              | -               | 3,213              | 6,331              | 658,391              |
| California               | 261,895,128          | 307              | 20,961,533          | 72              | 1,841,377          | 751,792            | 285,450,209          |
| Colorado                 | 2,358,725            | 68               | 19,572              | -               | 27,949             | 20,845             | 2,427,159            |
| Connecticut              | 4,852,942            | -                | 99,947              | -               | 27,660             | 15,396             | 4,995,945            |
| Delaware                 | 51,668               | -                | 864                 | -               | 128                | -                  | 52,660               |
| District of Columbia     | 952,110              | -                | 46                  | -               | 108                | -                  | 952,264              |
| Florida                  | 11,844,957           | 4                | 202,121             | -               | 21,765             | 76,635             | 12,145,482           |
| Georgia                  | 6,391,416            | -                | 85,708              | -               | 10,274             | 59,549             | 6,546,947            |
| Guam                     | 170,743              | -                | 13,775              | -               | -                  | -                  | 184,518              |
| Hawaii                   | 1,058,126            | -                | 237,604             | -               | -                  | 16,226             | 1,311,956            |
| Idaho                    | 1,767,511            | 126              | 31,130              | -               | 38,088             | 17,581             | 1,854,436            |
| Illinois                 | 4,381,869            | -                | 330,179             | -               | 1,412              | 36,409             | 4,749,869            |
| Indiana                  | 1,186,839            | -                | 173,754             | -               | 2,719              | 16,431             | 1,379,743            |
| Iowa                     | 722,242              | -                | 18,927              | -               | 20,727             | 8,548              | 770,444              |
| Kansas                   | 767,211              | -                | 58,456              | -               | 5,349              | 6,970              | 837,986              |
| Kentucky                 | 3,442,855            | -                | 156,138             | -               | 14,389             | 25,406             | 3,638,788            |
| Louisiana                | 1,051,428            | -                | 20,876              | -               | 2,500              | 17,690             | 1,092,494            |
| Maine                    | 6,689,275            | 228              | 580,213             | 403             | 10,133             | 51,188             | 7,331,440            |
| Maryland                 | 351,760              | -                | 15,289              | -               | 417                | -                  | 367,466              |
| Massachusetts            | 14,724,979           | -                | 123,288             | -               | -                  | 96,336             | 14,944,603           |
| Michigan                 | 11,311,056           | 24               | 400,017             | -               | 8,381              | 79,731             | 11,799,209           |
| Minnesota                | 3,631,357            | 494              | 4,431               | -               | 12,966             | 5,955              | 3,655,203            |
| Mississippi              | 1,470,386            | -                | 20,981              | -               | 2,972              | 15,932             | 1,510,271            |
| Missouri                 | 1,426,473            | -                | 116,109             | -               | 19,758             | 19,798             | 1,582,138            |
| Montana                  | 886,432              | 19,611           | 21,911              | 7,372           | 22,405             | 3,933              | 961,664              |
| Nebraska                 | 1,188,853            | 1,978            | 28,824              | 169             | 27,183             | 7,067              | 1,254,074            |
| Nevada                   | 1,305,766            | 598              | 61,370              | 71              | 9,261              | 3,875              | 1,380,941            |
| New Hampshire            | 439,221              | -                | 16,111              | -               | -                  | 4,183              | 459,515              |
| New Jersey               | 2,025,566            | -                | 22,951              | -               | 568                | -                  | 2,049,085            |
| New Mexico               | 3,028,392            | 11,411           | 43,546              | 770             | 80,732             | 49,669             | 3,214,520            |
| New York                 | 47,786,738           | 50               | 1,130,193           | 83              | 7,097              | 616,820            | 49,540,981           |
| North Carolina           | 5,603,699            | 6                | 55,486              | -               | 11,694             | 22,546             | 5,693,431            |
| North Dakota             | 981,297              | 7,392            | 17,495              | 170             | 18,655             | 8,901              | 1,033,910            |
| Northern Mariana Islands | 29,576               | -                | 8,879               | -               | -                  | -                  | 38,455               |
| Ohio                     | 12,843,487           | -                | 806,733             | -               | 68,374             | 206,424            | 13,925,018           |
| Oklahoma                 | 504,504              | 283,269          | 79,986              | 633             | 9,908              | 3,147              | 881,447              |
| Oregon                   | 2,707,045            | 84               | 76,671              | -               | 20,206             | 22,698             | 2,826,704            |
| Pennsylvania             | 3,939,054            | -                | 531,581             | -               | 32                 | 2,100              | 4,472,767            |
| Puerto Rico              | 1,116,360            | -                | 22,598              | -               | -                  | -                  | 1,138,958            |
| Rhode Island             | 4,155,000            | -                | 23,267              | -               | -                  | 36,937             | 4,215,204            |
| South Carolina           | 1,744,499            | 99               | 32,120              | -               | 13,455             | 18,659             | 1,808,832            |
| South Dakota             | 804,289              | 47,954           | 25,434              | 5,032           | 14,455             | 8,455              | 905,619              |
| Tennessee                | 3,345,313            | -                | 106,034             | -               | 17,450             | 22,844             | 3,491,641            |
| Texas                    | 22,365,281           | 38               | 2,257,220           | -               | 181,143            | 590,998            | 25,394,680           |
| Utah                     | 1,724,117            | 62               | 15,395              | 9               | 32,202             | 14,889             | 1,786,674            |
| Vermont                  | 2,634,678            | -                | 42,223              | -               | 2,828              | 8,179              | 2,687,908            |
| Virgin Islands           | 44,910               | -                | 1,763               | -               | -                  | -                  | 46,673               |
| Virginia                 | 1,906,937            | -                | 86,434              | -               | 1,992              | 1,228              | 1,996,591            |
| Washington               | 5,933,141            | 14,817           | 459,040             | 35,500          | 115,748            | 67,630             | 6,625,876            |
| West Virginia            | 390,479              | -                | 10,024              | -               | 3,271              | 73                 | 403,847              |
| Wisconsin                | 4,402,612            | 203              | 537,180             | -               | 5,691              | 50,720             | 4,996,406            |
| Wyoming                  | 118,962              | 1,305            | 3,555               | 54              | 1,436              | 524                | 125,836              |
| <b>Industry Total</b>    | <b>\$481,376,598</b> | <b>\$481,321</b> | <b>\$30,400,342</b> | <b>\$59,187</b> | <b>\$2,841,321</b> | <b>\$3,167,769</b> | <b>\$518,326,538</b> |

Note: These dollars represent submitted claims to USAC for the time period January 2000 through December 2000, including true-ups reported to date. District of Columbia has, as of December 2000, been compensated for Lifeline programs as Eligible Telecommunications Carrier (ETC) status has finally been granted retroactive to January 1998.

Source: Universal Service Administration Company (USAC).

## 8 Lines

Within the telephone industry there are several alternative, but closely related, definitions of telephone lines or loops. While these differences often make it difficult to reconcile data from different statistical series, they are not usually large enough to affect comparisons among companies or trends over time. Since 1970, over 90% of households and virtually all businesses have subscribed to telephone service. Line growth over time, averaging about 3% per year, has historically reflected growth in the population and the economy. In recent years, the growth in lines has increased as households have added additional lines.

Table 8.1 shows the nation's total number of telephone lines using three alternative measures. One measure is the number of local loops, which is a way of counting lines that is used to determine the amount of Universal Service Fund payments to local exchange carriers. A second measure is the number of presubscribed lines, which were used before 1998 to determine the amount of payments by the interexchange carriers to support the Universal Service Fund and the Lifeline and LinkUp programs. The third measure, access lines, represents estimates for the whole industry based on data filed with the Commission by large local exchange carriers.

Table 8.2 shows the number of local exchange operating areas (study areas) and loops in each state, and shows breakdowns by loops for price-cap and average-schedule companies. Table 8.3 shows the number of loops by holding companies.

Table 8.4 compares the number of residential local loops with the number of households with telephone service. The difference between these series is an approximate measure of the number of additional residential access lines. Table 8.4 shows that the percentage of additional lines for households with telephone service has increased dramatically, from about 3% in 1988 to about 29% in 1999.

Long distance carriers are required to pay payphone owners \$0.24 for every completed dial-around call (calls where the consumer chooses the long distance carrier over the payphone's presubscribed long distance carrier).<sup>2</sup> Because of this requirement, several long distance carriers employ the National Payphone Clearinghouse to administer payments on their behalf. On an annual basis, the National Payphone Clearinghouse supplies the FCC with data that allows the number of payphones in each state to be calculated. Table 8.5 shows the number of payphones owned by LECs and by independent payphone operators in each state at the end of the first quarter of 1999, 2000, and 2001 respectively. The number of payphones is broken down by whether the payphones are served by an RBOC or by another LEC.

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<sup>2</sup> See *Third Report and Order and Order on Reconsideration of the 2nd Report and Order*, CC Docket 96-128, adopted Jan. 28, 1999.



**Table 8.1**  
**Total U.S. Telephone Lines**

| <b>Year End</b> | <b>Presubscribed Lines</b> | <b>Annual Growth (%)</b> | <b>Local Loops</b> | <b>Annual Growth (%)</b> | <b>Access Lines</b> | <b>Annual Growth (%)</b> |
|-----------------|----------------------------|--------------------------|--------------------|--------------------------|---------------------|--------------------------|
| 1980            |                            |                          | 102,216,367        |                          |                     |                          |
| 1981            |                            |                          | 105,559,222        | 3.3 %                    |                     |                          |
| 1982            |                            |                          | 107,519,214        | 1.9                      |                     |                          |
| 1983            |                            |                          | 110,612,689        | 2.9                      |                     |                          |
| 1984            |                            |                          | 112,550,739        | 1.8                      | 113,880,538         |                          |
| 1985            |                            |                          | 115,985,813        | 3.1                      | 117,434,802         | 3.1 %                    |
| 1986            |                            |                          | 118,289,121        | 2.0                      | 120,781,565         | 2.8                      |
| 1987            | 121,466,500                |                          | 122,789,249        | 3.8                      | 124,678,710         | 3.2                      |
| 1988            | 124,360,829                | 2.4 %                    | 127,086,765        | 3.5                      | 126,953,616         | 1.8                      |
| 1989            | 128,482,479                | 3.3                      | 131,504,568        | 3.5                      | 130,915,695         | 3.1                      |
| 1990            | 132,408,608                | 3.1                      | 136,114,201        | 3.5                      | 134,743,029         | 2.9                      |
| 1991            | 135,286,582                | 2.2                      | 139,412,884        | 2.4                      | 139,672,703         | 3.7                      |
| 1992            | 138,725,040                | 2.5                      | 143,341,581        | 2.8                      | 142,428,028         | 2.0                      |
| 1993            | 142,809,280                | 2.9                      | 148,106,159        | 3.3                      | 147,095,681         | 3.3                      |
| 1994            | 148,479,328                | 4.0                      | 153,447,946        | 3.6                      | 151,607,529         | 3.1                      |
| 1995            | 152,601,177                | 2.8                      | 159,658,662        | 4.0                      | 158,219,924         | 4.4                      |
| 1996            | 158,672,243                | 4.0                      | 166,445,580        | 4.3                      | 165,420,650         | 4.6                      |
| 1997            | NA                         | NA                       | 173,868,033        | 4.5                      | 173,705,523         | 5.0                      |
| 1998            | NA                         | NA                       | 179,846,360        | 3.4                      | 180,471,261         | 3.9                      |
| 1999            | NA                         | NA                       | 184,985,055        | 2.9                      | 186,260,652         | 3.2                      |

NA - Not Available.

Source: Presubscribed lines and local loops: National Exchange Carrier Association.  
Access Lines: *Statistics of Communications Common Carriers*, 1999 edition, Table 4.10,  
after inflating access lines of reporting carriers to represent the total industry.

**Table 8.2**  
**Telephone Loops of Incumbent Local Exchange Carriers by State**  
**(As of December 31, 1999)**

|                          | Study Areas  | Price Cap          |                     | Non-Price Cap                  |                     | Total Loops        |
|--------------------------|--------------|--------------------|---------------------|--------------------------------|---------------------|--------------------|
|                          |              | Bell Company Loops | Other Company Loops | Average Schedule Company Loops | Other Company Loops |                    |
| Alabama                  | 28           | 2,000,061          | 323,533             | 52,741                         | 145,298             | 2,521,633          |
| Alaska                   | 25           | 0                  | 23,493              | 226                            | 434,981             | 458,700            |
| American Somoa           | 1            | 0                  | 0                   | 10,506                         | 0                   | 10,506             |
| Arizona                  | 16           | 2,774,707          | 162,506             | 0                              | 34,337              | 2,971,550          |
| Arkansas                 | 28           | 1,039,166          | 222,076             | 25,768                         | 214,271             | 1,501,281          |
| California               | 22           | 17,782,239         | 4,749,226           | 0                              | 204,992             | 22,736,457         |
| Colorado                 | 28           | 2,737,393          | 0                   | 3,288                          | 123,489             | 2,864,170          |
| Connecticut              | 2            | 2,411,062          | 0                   | 24,144                         | 0                   | 2,435,206          |
| Delaware                 | 1            | 582,735            | 0                   | 0                              | 0                   | 582,735            |
| District of Columbia     | 1            | 926,875            | 0                   | 0                              | 0                   | 926,875            |
| Florida                  | 12           | 6,686,776          | 4,439,100           | 0                              | 183,683             | 11,309,559         |
| Georgia                  | 36           | 4,338,146          | 28,652              | 76,750                         | 765,277             | 5,208,825          |
| Guam                     | 1            | 0                  | 0                   | 0                              | 77,609              | 77,609             |
| Hawaii                   | 2            | 0                  | 722,147             | 0                              | 269                 | 722,416            |
| Idaho                    | 21           | 529,331            | 156,648             | 5,014                          | 42,307              | 733,300            |
| Illinois                 | 56           | 7,089,259          | 970,306             | 43,616                         | 227,244             | 8,330,425          |
| Indiana                  | 42           | 2,280,543          | 1,242,839           | 93,824                         | 64,078              | 3,681,284          |
| Iowa                     | 153          | 1,088,216          | 349,338             | 199,238                        | 40,837              | 1,677,629          |
| Kansas                   | 39           | 1,445,327          | 145,017             | 21,327                         | 108,435             | 1,720,106          |
| Kentucky                 | 19           | 1,240,607          | 760,175             | 142,721                        | 48,085              | 2,191,588          |
| Louisiana                | 20           | 2,396,531          | 0                   | 9,964                          | 179,284             | 2,585,779          |
| Maine                    | 20           | 718,057            | 0                   | 36,539                         | 107,339             | 861,935            |
| Maryland                 | 2            | 3,833,217          | 0                   | 7,714                          | 0                   | 3,840,931          |
| Massachusetts            | 3            | 4,582,859          | 0                   | 2,964                          | 1,159               | 4,586,982          |
| Michigan                 | 39           | 5,514,290          | 809,602             | 35,278                         | 172,044             | 6,531,214          |
| Minnesota                | 88           | 2,246,696          | 424,521             | 235,467                        | 163,035             | 3,069,719          |
| Mississippi              | 19           | 1,326,316          | 6,321               | 23,931                         | 63,474              | 1,420,042          |
| Missouri                 | 43           | 2,716,232          | 726,282             | 21,206                         | 162,963             | 3,626,683          |
| Montana                  | 18           | 366,557            | 8,742               | 4,129                          | 159,005             | 538,433            |
| Nebraska                 | 41           | 508,081            | 384,729             | 29,554                         | 84,103              | 1,006,467          |
| Nevada                   | 14           | 358,700            | 926,999             | 0                              | 31,879              | 1,317,578          |
| New Hampshire            | 10           | 818,682            | 0                   | 2,164                          | 54,456              | 875,302            |
| New Jersey               | 3            | 6,519,258          | 219,929             | 0                              | 10,492              | 6,749,679          |
| New Mexico               | 15           | 811,430            | 99,748              | 0                              | 43,318              | 954,496            |
| New York                 | 44           | 11,466,333         | 1,067,356           | 21,518                         | 263,337             | 12,818,544         |
| North Carolina           | 26           | 2,544,247          | 1,828,529           | 253,485                        | 467,061             | 5,093,322          |
| North Dakota             | 24           | 253,914            | 0                   | 63,272                         | 100,680             | 417,866            |
| Northern Mariana Islands | 1            | 0                  | 24,945              | 0                              | 0                   | 24,945             |
| Ohio                     | 42           | 4,133,557          | 2,346,160           | 65,313                         | 460,929             | 7,005,959          |
| Oklahoma                 | 39           | 1,724,420          | 121,945             | 5,791                          | 233,530             | 2,085,686          |
| Oregon                   | 33           | 1,395,086          | 575,748             | 11,922                         | 146,252             | 2,129,008          |
| Pennsylvania             | 36           | 6,530,158          | 1,109,767           | 576,536                        | 252,360             | 8,468,821          |
| Puerto Rico              | 2            | 0                  | 0                   | 0                              | 1,294,704           | 1,294,704          |
| Rhode Island             | 1            | 678,123            | 0                   | 0                              | 0                   | 678,123            |
| South Carolina           | 27           | 1,503,586          | 320,727             | 77,107                         | 428,067             | 2,329,487          |
| South Dakota             | 31           | 280,323            | 0                   | 95,463                         | 53,611              | 429,397            |
| Tennessee                | 25           | 2,743,845          | 354,059             | 143,060                        | 206,426             | 3,447,390          |
| Texas                    | 57           | 10,192,419         | 2,404,248           | 9,652                          | 568,084             | 13,174,403         |
| Utah                     | 13           | 1,117,319          | 23,317              | 4,932                          | 30,801              | 1,176,369          |
| Vermont                  | 10           | 352,186            | 0                   | 4,384                          | 59,697              | 416,267            |
| Virgin Islands           | 1            | 0                  | 0                   | 0                              | 67,229              | 67,229             |
| Virginia                 | 21           | 3,629,926          | 1,016,550           | 97,479                         | 18,157              | 4,762,112          |
| Washington               | 23           | 2,527,498          | 955,970             | 4,124                          | 261,316             | 3,748,908          |
| West Virginia            | 10           | 848,375            | 149,635             | 8,445                          | 7,654               | 1,014,109          |
| Wisconsin                | 88           | 2,207,612          | 591,493             | 217,039                        | 462,125             | 3,478,269          |
| Wyoming                  | 10           | 247,234            | 7,508               | 0                              | 42,301              | 297,043            |
| <b>Total</b>             | <b>1,432</b> | <b>142,045,510</b> | <b>30,799,886</b>   | <b>2,767,595</b>               | <b>9,372,064</b>    | <b>184,985,055</b> |

Source: NECA universal service filings.



**Table 8.3**  
**Telephone Loops of Incumbent Local Exchange Carriers by Holding**  
**(As of December 31, 1999)**

| <b>Holding Companies</b>                     | <b>Loops</b>       | <b>Percent of Loops</b> |
|--|--------------------|-------------------------|
| Verizon Communications 2/                    | 62,276,224         | 33.67 %                 |
| SBC Communications                           | 58,918,970         | 31.85                   |
| BellSouth Telecommunications, Inc.           | 24,780,115         | 13.40                   |
| Qwest Communications Corporation             | 16,883,785         | 9.13                    |
| Sprint Corporation                           | 7,874,408          | 4.26                    |
| ALLTEL Corporation                           | 2,271,645          | 1.23                    |
| CenturyTel, Inc.                             | 1,264,311          | 0.68                    |
| Global Crossing Ltd.                         | 1,126,253          | 0.61                    |
| Citizens Communications Company              | 1,011,101          | 0.55                    |
| Cincinnati Bell, Inc.                        | 998,991            | 0.54                    |
| TDS Telecommunications Corporation           | 588,355            | 0.32                    |
| Alaska Communications Systems Holding, Inc.  | 329,876            | 0.18                    |
| C-TEC Corporation                            | 297,405            | 0.16                    |
| Madison River Telephone Company              | 148,614            | 0.08                    |
| MJD Communications                           | 140,031            | 0.08                    |
| North State Telephone Company                | 133,533            | 0.07                    |
| Rock Hill Telephone Company                  | 123,806            | 0.07                    |
| Roseville Telephone Company                  | 123,520            | 0.07                    |
| The Concord Telephone Company                | 118,218            | 0.06                    |
| TXU Communications                           | 117,268            | 0.06                    |
| Consolidated Communications, Inc.            | 88,953             | 0.05                    |
| Horry Telephone Cooperative, Inc.            | 86,423             | 0.05                    |
| Conestoga Enterprises, Inc.                  | 80,169             | 0.04                    |
| North Pittsburgh Telephone Company           | 79,042             | 0.04                    |
| Guam Telephone Authority                     | 77,609             | 0.04                    |
| Hargray Communications Group, Inc.           | 67,645             | 0.04                    |
| Virgin Islands Telephone Corporation         | 67,229             | 0.04                    |
| Denver & Ephrata Telephone Company           | 59,395             | 0.03                    |
| Farmers Telephone Cooperative, Inc.          | 57,255             | 0.03                    |
| Matanuska Telephone Association              | 56,575             | 0.03                    |
| Pioneer                                      | 50,282             | 0.03                    |
| GTC, Inc.                                    | 49,710             | 0.03                    |
| Chorus Communications Group                  | 43,543             | 0.02                    |
| Fort Bend Communication Company              | 41,677             | 0.02                    |
| Mankato Citizens Telephone Company           | 40,573             | 0.02                    |
| Lynch Telephone Corporation                  | 40,437             | 0.02                    |
| Coastal Utilities, Inc.                      | 39,332             | 0.02                    |
| East Ascension Telephone Company, Inc.       | 39,289             | 0.02                    |
| CFW Communication Companies                  | 38,342             | 0.02                    |
| Atlantic Telephone Membership Corporation    | 38,083             | 0.02                    |
| Twin Lake Telephone Cooperative              | 36,574             | 0.02                    |
| SRT Service Corporation                      | 35,985             | 0.02                    |
| Ben Lomand Rural Telephone Cooperative, Inc. | 35,813             | 0.02                    |
| The Chillicothe Telephone Company            | 35,566             | 0.02                    |
| Golden West Telecommunications               | 35,384             | 0.02                    |
| Telephone Electronics Corporation            | 35,102             | 0.02                    |
| Lexington Communications, Inc.               | 34,739             | 0.02                    |
| Guadalupe Valley Telephone Cooperative       | 34,713             | 0.02                    |
| Skyline Telephone Membership Corporation     | 34,663             | 0.02                    |
| Great Plains Communication, Inc.             | 34,478             | 0.02                    |
| Smithville Telephone Company, Inc.           | 33,333             | 0.02                    |
| Wood County Telephone Company                | 30,921             | 0.02                    |
| Yadkin Valley Telephone                      | 30,785             | 0.02                    |
| Eastex Telephone Cooperative, Inc.           | 30,748             | 0.02                    |
| Ollig Utilities                              | 28,233             | 0.02                    |
| Brandenburg Telephone Company                | 27,652             | 0.01                    |
| South Central Rural Telephone Cooperative    | 27,596             | 0.01                    |
| Millington Telephone Company, Inc.           | 26,336             | 0.01                    |
| Kerrville Telephone Company                  | 25,645             | 0.01                    |
| Grand River Mutual Telephone Corporation     | 25,520             | 0.01                    |
| All Other Companies                          | 3,677,277          | 1.99                    |
| <b>Total</b>                                 | <b>184,985,055</b> | <b>100.00 %</b>         |

1/ Includes incumbent local exchange carrier's loops for holding companies with more than 25,000 loops.

2/ Includes Bell Atlantic Corporation and GTE Corporation.

Source: NECA universal service filings.

**Table 8.4**  
**Additional Residential Lines**  
**for Households with Telephone Service**  
**(End-of-Year Data in Millions)**

| Year | Loops 1/    |                 |             | Households with Telephone Service 2/ | Additional Residential Lines | Percentage of Additional Lines for Households with Telephones |
|------|-------------|-----------------|-------------|--------------------------------------|------------------------------|---|
|      | Residential | Non-Residential | Total Loops |                                      |                              |   |
| 1988 | 87.7        | 38.5            | 126.2       | 85.4                                 | 2.3                          | 2.7 %   |
| 1989 | 90.0        | 40.6            | 130.6       | 87.4                                 | 2.6                          | 3.0   |
| 1990 | 92.2        | 42.9            | 135.1       | 88.4                                 | 3.9                          | 4.4   |
| 1991 | 95.9        | 42.5            | 138.4       | 89.4                                 | 6.5                          | 7.3   |
| 1992 | 99.3        | 43.0            | 142.3       | 91.0                                 | 8.3                          | 9.1   |
| 1993 | 101.8       | 45.2            | 147.0       | 93.0                                 | 8.8                          | 9.4   |
| 1994 | 105.1       | 47.2            | 152.3       | 93.7                                 | 11.4                         | 12.2  |
| 1995 | 108.1       | 50.4            | 158.5       | 94.2                                 | 13.9                         | 14.7  |
| 1996 | 111.6       | 54.6            | 166.2       | 95.1                                 | 16.5                         | 17.3  |
| 1997 | 115.6       | 58.7            | 174.3       | 96.5                                 | 19.1                         | 19.8  |
| 1998 | 119.9       | 64.1            | 183.9       | 98.0                                 | 21.9                         | 22.3  |
| 1999 | 127.8       | 66.1            | 193.9       | 99.1                                 | 28.6                         | 28.9  |

1/ Total loops are from the Universal Service Fund subscriber line counts provided by the National Exchange Carrier Association. Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands totals have been removed. Total loops have been divided between residential and non-residential using the ratio of residential to non-residential access lines reported in iStatistics of Communications Common Carriers. Those totals also exclude Puerto Rico, but cover only the carriers that file ARMIS reports (of which there are none for Guam, the Northern Mariana Islands, and the U.S. Virgin Islands). Loop counts beginning in 1996 have been increased by estimated competitive local exchange carrier lines from Association for Local Telecommunications Services (ALTS) and New Paradigm Resources Group.

2/ *Current Population Survey* (U.S. Department of Commerce, Bureau of the Census).

Source: FCC staff estimates.

**Table 8.5**  
**Number of Payphones Owned by LECs and Independent Operators**  
**(As of March 31, 1999)**

| State                | RBOC Territories <sup>1</sup> |             | All Other LEC Territories |             | Total<br>LEC Owned | Total<br>Independent | Grand<br>Total |
|----------------------|-------------------------------|-------------|---------------------------|-------------|--------------------|----------------------|----------------|
|                      | LEC Owned                     | Independent | LEC Owned                 | Independent |                    |                      |                |
| Alabama              | 15,475                        | 7,435       | 252                       | 707         | 15,727             | 8,142                | 23,869         |
| Alaska               | 0                             | 0           | 1,477                     | 866         | 1,477              | 866                  | 2,343          |
| Arizona              | 16,540                        | 12,547      | 84                        | 5,028       | 16,624             | 17,575               | 34,199         |
| Arkansas             | 15,024                        | 1,833       | 435                       | 438         | 15,459             | 2,271                | 17,730         |
| California           | 183,098                       | 93,553      | 2,270                     | 15,813      | 185,368            | 109,366              | 294,734        |
| Colorado             | 15,944                        | 9,919       | 187                       | 1,101       | 16,131             | 11,020               | 27,151         |
| Connecticut          | 23,217                        | 30          | 0                         | 309         | 23,217             | 339                  | 23,556         |
| Delaware             | 4,804                         | 908         | 0                         | 0           | 4,804              | 908                  | 5,712          |
| District of Columbia | 8,034                         | 2,332       | 0                         | 0           | 8,034              | 2,332                | 10,366         |
| Florida              | 49,112                        | 46,392      | 13,131                    | 12,015      | 62,243             | 58,407               | 120,650        |
| Georgia              | 33,382                        | 17,834      | 1,925                     | 3,312       | 35,307             | 21,146               | 56,453         |
| Hawaii               | 7,984                         | 686         | 0                         | 0           | 7,984              | 686                  | 8,670          |
| Idaho                | 3,945                         | 2,370       | 362                       | 354         | 4,307              | 2,724                | 7,031          |
| Illinois             | 77,064                        | 30,946      | 200                       | 122         | 77,264             | 31,068               | 108,332        |
| Indiana              | 31,566                        | 7,678       | 2,238                     | 1,902       | 33,804             | 9,580                | 43,384         |
| Iowa                 | 6,657                         | 4,154       | 663                       | 312         | 7,320              | 4,466                | 11,786         |
| Kansas               | 15,844                        | 1,619       | 1,679                     | 525         | 17,523             | 2,144                | 19,667         |
| Kentucky             | 11,187                        | 13,324      | 274                       | 1,767       | 11,461             | 15,091               | 26,552         |
| Louisiana            | 15,521                        | 9,351       | 337                       | 2,326       | 15,858             | 11,677               | 27,535         |
| Maine                | 6,093                         | 784         | 348                       | 299         | 6,441              | 1,083                | 7,524          |
| Maryland             | 31,978                        | 10,422      | 55                        | 154         | 32,033             | 10,576               | 42,609         |
| Massachusetts        | 43,766                        | 9,308       | 10                        | 670         | 43,776             | 9,978                | 53,754         |
| Michigan             | 65,367                        | 21,151      | 620                       | 1,088       | 65,987             | 22,239               | 88,226         |
| Minnesota            | 12,193                        | 3,870       | 2,029                     | 2,806       | 14,222             | 6,676                | 20,898         |
| Mississippi          | 11,416                        | 4,305       | 118                       | 362         | 11,534             | 4,667                | 16,201         |
| Missouri             | 34,959                        | 6,376       | 2,910                     | 1,400       | 37,869             | 7,776                | 45,645         |
| Montana              | 2,620                         | 1,674       | 430                       | 867         | 3,050              | 2,541                | 5,591          |
| Nebraska             | 3,432                         | 2,172       | 3,365                     | 585         | 6,797              | 2,757                | 9,554          |
| Nevada               | 4,213                         | 1,400       | 1,592                     | 16,304      | 5,805              | 17,704               | 23,509         |
| New Hampshire        | 6,253                         | 1,394       | 108                       | 183         | 6,361              | 1,577                | 7,938          |
| New Jersey           | 71,334                        | 23,214      | 2,260                     | 2,547       | 73,594             | 25,761               | 99,355         |
| New Mexico           | 6,852                         | 3,985       | 65                        | 777         | 6,917              | 4,762                | 11,679         |
| New York             | 107,491                       | 49,677      | 588                       | 28,461      | 108,079            | 78,138               | 186,217        |
| North Carolina       | 15,572                        | 17,502      | 10,252                    | 13,304      | 25,824             | 30,806               | 56,630         |
| North Dakota         | 746                           | 1,091       | 102                       | 993         | 848                | 2,084                | 2,932          |
| Ohio                 | 6,250                         | 17,440      | 6,433                     | 2,931       | 12,683             | 20,371               | 33,054         |
| Oklahoma             | 22,654                        | 2,008       | 1,003                     | 2,034       | 23,657             | 4,042                | 27,699         |
| Oregon               | 11,683                        | 7,902       | 870                       | 1,443       | 12,553             | 9,345                | 21,898         |
| Pennsylvania         | 56,627                        | 21,433      | 8,188                     | 4,065       | 64,815             | 25,498               | 90,313         |
| Rhode Island         | 5,713                         | 1,884       | 0                         | 5           | 5,713              | 1,889                | 7,602          |
| South Carolina       | 14,048                        | 7,975       | 1,129                     | 2,981       | 15,177             | 10,956               | 26,133         |
| South Dakota         | 2,480                         | 845         | 438                       | 164         | 2,918              | 1,009                | 3,927          |
| Tennessee            | 17,111                        | 12,036      | 2,765                     | 3,426       | 19,876             | 15,462               | 35,338         |
| Texas                | 106,514                       | 37,587      | 2,678                     | 16,268      | 109,192            | 53,855               | 163,047        |
| Utah                 | 7,118                         | 3,575       | 125                       | 528         | 7,243              | 4,103                | 11,346         |
| Vermont              | 3,194                         | 320         | 99                        | 101         | 3,293              | 421                  | 3,714          |
| Virginia             | 35,280                        | 19,841      | 3,221                     | 3,534       | 38,501             | 23,375               | 61,876         |
| Washington           | 21,432                        | 11,137      | 803                       | 2,274       | 22,235             | 13,411               | 35,646         |
| West Virginia        | 8,873                         | 1,364       | 309                       | 944         | 9,182              | 2,308                | 11,490         |
| Wisconsin            | 25,304                        | 4,925       | 1,946                     | 4,537       | 27,250             | 9,462                | 36,712         |
| Wyoming              | 2,499                         | 995         | 118                       | 137         | 2,617              | 1,132                | 3,749          |
| Totals               | 1,305,463                     | 572,503     | 80,491                    | 163,069     | 1,385,954          | 735,572              | 2,121,526      |

See footnote(s) at end of table.

**Table 8.5**  
**Number of Payphones Owned by LECs and Independent Operators - Continued**  
**(As of March 31, 2000)**

| State                | RBOC Territories |             | All Other LEC Territories |             | Total<br>LEC Owned | Total<br>Independent | Grand<br>Total |
|----------------------|------------------|-------------|---------------------------|-------------|--------------------|----------------------|----------------|
|                      | LEC Owned        | Independent | LEC Owned                 | Independent |                    |                      |                |
| Alabama              | 14,347           | 8,171       | 247                       | 1,472       | 14,594             | 9,643                | 24,237         |
| Alaska               | 0                | 0           | 1,058                     | 3,525       | 1,058              | 3,525                | 4,583          |
| Arizona              | 16,212           | 14,518      | 132                       | 2,501       | 16,344             | 17,019               | 33,363         |
| Arkansas             | 13,251           | 2,229       | 271                       | 1,203       | 13,522             | 3,432                | 16,954         |
| California           | 170,456          | 92,062      | 1,730                     | 3,708       | 172,186            | 95,770               | 267,956        |
| Colorado             | 15,502           | 9,934       | 214                       | 1,385       | 15,716             | 11,319               | 27,035         |
| Connecticut          | 21,570           | 4,195       | 0                         | 176         | 21,570             | 4,371                | 25,941         |
| Delaware             | 4,612            | 1,082       | 0                         | 0           | 4,612              | 1,082                | 5,694          |
| District of Columbia | 7,750            | 2,755       | 0                         | 0           | 7,750              | 2,755                | 10,505         |
| Florida              | 46,090           | 51,208      | 9,150                     | 12,759      | 55,240             | 63,967               | 119,207        |
| Georgia              | 30,530           | 21,921      | 635                       | 8,433       | 31,165             | 30,354               | 61,519         |
| Hawaii               | 7,784            | 1,159       | 0                         | 0           | 7,784              | 1,159                | 8,943          |
| Idaho                | 3,756            | 2,470       | 280                       | 348         | 4,036              | 2,818                | 6,854          |
| Illinois             | 72,615           | 30,837      | 1,109                     | 1,807       | 73,724             | 32,644               | 106,368        |
| Indiana              | 30,612           | 8,343       | 2,228                     | 1,246       | 32,840             | 9,589                | 42,429         |
| Iowa                 | 6,512            | 3,663       | 732                       | 276         | 7,244              | 3,939                | 11,183         |
| Kansas               | 13,574           | 1,543       | 989                       | 843         | 14,563             | 2,386                | 16,949         |
| Kentucky             | 10,240           | 7,961       | 114                       | 918         | 10,354             | 8,879                | 19,233         |
| Louisiana            | 14,140           | 12,071      | 118                       | 1,506       | 14,258             | 13,577               | 27,835         |
| Maine                | 6,047            | 892         | 36                        | 521         | 6,083              | 1,413                | 7,496          |
| Maryland             | 31,182           | 12,094      | 50                        | 10          | 31,232             | 12,104               | 43,336         |
| Massachusetts        | 42,015           | 10,912      | 8                         | 99          | 42,023             | 11,011               | 53,034         |
| Michigan             | 60,795           | 20,790      | 519                       | 1,055       | 61,314             | 21,845               | 83,159         |
| Minnesota            | 8,317            | 4,884       | 1,969                     | 1,661       | 10,286             | 6,545                | 16,831         |
| Mississippi          | 10,748           | 4,806       | 74                        | 573         | 10,822             | 5,379                | 16,201         |
| Missouri             | 31,292           | 6,760       | 2,356                     | 2,102       | 33,648             | 8,862                | 42,510         |
| Montana              | 2,617            | 1,517       | 579                       | 1,171       | 3,196              | 2,688                | 5,884          |
| Nebraska             | 3,299            | 2,116       | 609                       | 3,644       | 3,908              | 5,760                | 9,668          |
| Nevada               | 3,924            | 1,603       | 1,636                     | 10,341      | 5,560              | 11,944               | 17,504         |
| New Hampshire        | 6,229            | 1,582       | 74                        | 247         | 6,303              | 1,829                | 8,132          |
| New Jersey           | 68,858           | 24,363      | 2,225                     | 335         | 71,083             | 24,698               | 95,781         |
| New Mexico           | 6,356            | 4,296       | 57                        | 665         | 6,413              | 4,961                | 11,374         |
| New York             | 106,298          | 59,456      | 570                       | 4,774       | 106,868            | 64,230               | 171,098        |
| North Carolina       | 14,820           | 10,573      | 9,954                     | 10,596      | 24,774             | 21,169               | 45,943         |
| North Dakota         | 720              | 873         | 59                        | 855         | 779                | 1,728                | 2,507          |
| Ohio                 | 48,872           | 11,061      | 4,832                     | 6,501       | 53,704             | 17,562               | 71,266         |
| Oklahoma             | 19,338           | 5,175       | 564                       | 1,087       | 19,902             | 6,262                | 26,164         |
| Oregon               | 11,265           | 7,914       | 461                       | 2,019       | 11,726             | 9,933                | 21,659         |
| Pennsylvania         | 55,064           | 22,635      | 6,010                     | 6,894       | 61,074             | 29,529               | 90,603         |
| Rhode Island         | 5,487            | 2,228       | 0                         | 1,220       | 5,487              | 3,448                | 8,935          |
| South Carolina       | 12,125           | 10,220      | 1,889                     | 4,210       | 14,014             | 14,430               | 28,444         |
| South Dakota         | 2,343            | 727         | 381                       | 875         | 2,724              | 1,602                | 4,326          |
| Tennessee            | 18,348           | 14,775      | 2,715                     | 3,091       | 21,063             | 17,866               | 38,929         |
| Texas                | 92,033           | 49,707      | 1,963                     | 4,017       | 93,996             | 53,724               | 147,720        |
| Utah                 | 7,182            | 3,395       | 125                       | 764         | 7,307              | 4,159                | 11,466         |
| Vermont              | 3,010            | 424         | 0                         | 327         | 3,010              | 751                  | 3,761          |
| Virginia             | 33,443           | 19,018      | 2,858                     | 2,302       | 36,301             | 21,320               | 57,621         |
| Washington           | 21,048           | 10,557      | 600                       | 2,163       | 21,648             | 12,720               | 34,368         |
| West Virginia        | 8,643            | 1,770       | 339                       | 952         | 8,982              | 2,722                | 11,704         |
| Wisconsin            | 23,280           | 6,096       | 1,033                     | 4,974       | 24,313             | 11,070               | 35,383         |
| Wyoming              | 2,347            | 1,063       | 256                       | 202         | 2,603              | 1,265                | 3,868          |
| Totals               | 1,244,535        | 633,022     | 63,808                    | 122,353     | 1,308,343          | 755,375              | 2,063,718      |

See footnote(s) at end of table.

**Table 8.5**  
**Number of Payphones Owned by LECs and Independent Operators - Continued**  
**(As of March 31, 2001)**

| State                | RBOC Territories |             | All Other LEC Territories |             | Total<br>LEC Owned | Total<br>Independent | Grand<br>Total |
|----------------------|------------------|-------------|---------------------------|-------------|--------------------|----------------------|----------------|
|                      | LEC Owned        | Independent | LEC Owned                 | Independent |                    |                      |                |
| Alabama              | 13,158           | 6,937       | 467                       | 1,332       | 13,625             | 8,269                | 21,894         |
| Alaska               | 0                | 0           | 1,217                     | 3,377       | 1,217              | 3,377                | 4,594          |
| Arizona              | 18,788           | 15,031      | 803                       | 2,704       | 19,591             | 17,735               | 37,326         |
| Arkansas             | 10,216           | 1,563       | 1,675                     | 1,552       | 11,891             | 3,115                | 15,006         |
| California           | 137,535          | 103,245     | 1,885                     | 3,915       | 139,420            | 107,160              | 246,580        |
| Colorado             | 15,380           | 9,363       | 196                       | 924         | 15,576             | 10,287               | 25,863         |
| Connecticut          | 19,835           | 4,360       | 0                         | 2           | 19,835             | 4,362                | 24,197         |
| Delaware             | 4,473            | 960         | 0                         | 0           | 4,473              | 960                  | 5,433          |
| District of Columbia | 7,362            | 1,273       | 0                         | 0           | 7,362              | 1,273                | 8,635          |
| Florida              | 42,019           | 45,822      | 7,714                     | 11,658      | 49,733             | 57,480               | 107,213        |
| Georgia              | 27,920           | 20,403      | 3,532                     | 6,367       | 31,452             | 26,770               | 58,222         |
| Hawaii               | 7,068            | 1,128       | 0                         | 0           | 7,068              | 1,128                | 8,196          |
| Idaho                | 3,623            | 2,304       | 260                       | 248         | 3,883              | 2,552                | 6,435          |
| Illinois             | 62,280           | 29,263      | 1,515                     | 2,087       | 63,795             | 31,350               | 95,145         |
| Indiana              | 26,901           | 7,766       | 2,187                     | 1,260       | 29,088             | 9,026                | 38,114         |
| Iowa                 | 6,307            | 2,837       | 705                       | 306         | 7,012              | 3,143                | 10,155         |
| Kansas               | 11,707           | 2,272       | 950                       | 952         | 12,657             | 3,224                | 15,881         |
| Kentucky             | 9,055            | 8,021       | 2,263                     | 1,905       | 11,318             | 9,926                | 21,244         |
| Louisiana            | 13,370           | 11,343      | 156                       | 1,421       | 13,526             | 12,764               | 26,290         |
| Maine                | 5,937            | 682         | 50                        | 311         | 5,987              | 993                  | 6,980          |
| Maryland             | 31,492           | 6,233       | 49                        | 9           | 31,541             | 6,242                | 37,783         |
| Massachusetts        | 39,148           | 10,581      | 8                         | 1,239       | 39,156             | 11,820               | 50,976         |
| Michigan             | 48,830           | 18,735      | 709                       | 1,087       | 49,539             | 19,822               | 69,361         |
| Minnesota            | 11,279           | 4,528       | 2,438                     | 2,376       | 13,717             | 6,904                | 20,621         |
| Mississippi          | 10,115           | 4,495       | 186                       | 499         | 10,301             | 4,994                | 15,295         |
| Missouri             | 23,827           | 6,842       | 2,906                     | 2,968       | 26,733             | 9,810                | 36,543         |
| Montana              | 2,615            | 1,426       | 609                       | 1,023       | 3,224              | 2,449                | 5,673          |
| Nebraska             | 3,187            | 1,703       | 637                       | 4,012       | 3,824              | 5,715                | 9,539          |
| Nevada               | 3,514            | 1,716       | 2,016                     | 9,760       | 5,530              | 11,476               | 17,006         |
| New Hampshire        | 5,963            | 1,565       | 103                       | 220         | 6,066              | 1,785                | 7,851          |
| New Jersey           | 66,213           | 16,991      | 1,937                     | 1,392       | 68,150             | 18,383               | 86,533         |
| New Mexico           | 5,951            | 3,455       | 302                       | 670         | 6,253              | 4,125                | 10,378         |
| New York             | 103,168          | 52,436      | 11,284                    | 8,157       | 114,452            | 60,593               | 175,045        |
| North Carolina       | 13,434           | 10,176      | 8,314                     | 11,674      | 21,748             | 21,850               | 43,598         |
| North Dakota         | 650              | 763         | 73                        | 817         | 723                | 1,580                | 2,303          |
| Ohio                 | 41,298           | 10,924      | 9,458                     | 7,170       | 50,756             | 18,094               | 68,850         |
| Oklahoma             | 15,302           | 4,600       | 1,343                     | 1,076       | 16,645             | 5,676                | 22,321         |
| Oregon               | 10,676           | 7,580       | 486                       | 2,038       | 11,162             | 9,618                | 20,780         |
| Pennsylvania         | 52,279           | 20,595      | 6,765                     | 4,570       | 59,044             | 25,165               | 84,209         |
| Rhode Island         | 5,126            | 2,368       | 0                         | 793         | 5,126              | 3,161                | 8,287          |
| South Carolina       | 10,850           | 9,097       | 2,159                     | 3,947       | 13,009             | 13,044               | 26,053         |
| South Dakota         | 2,343            | 785         | 410                       | 826         | 2,753              | 1,611                | 4,364          |
| Tennessee            | 14,458           | 11,846      | 2,618                     | 2,671       | 17,076             | 14,517               | 31,593         |
| Texas                | 75,275           | 51,552      | 2,013                     | 6,407       | 77,288             | 57,959               | 135,247        |
| Utah                 | 7,398            | 3,246       | 156                       | 578         | 7,554              | 3,824                | 11,378         |
| Vermont              | 2,865            | 398         | 44                        | 286         | 2,909              | 684                  | 3,593          |
| Virginia             | 30,899           | 13,757      | 2,523                     | 2,199       | 33,422             | 15,956               | 49,378         |
| Washington           | 20,521           | 10,566      | 792                       | 2,395       | 21,313             | 12,961               | 34,274         |
| West Virginia        | 7,901            | 1,751       | 665                       | 700         | 8,566              | 2,451                | 11,017         |
| Wisconsin            | 19,454           | 5,578       | 1,552                     | 6,039       | 21,006             | 11,617               | 32,623         |
| Wyoming              | 2,412            | 917         | 269                       | 167         | 2,681              | 1,084                | 3,765          |
| Totals               | 1,131,377        | 571,778     | 88,399                    | 128,086     | 1,219,776          | 699,864              | 1,919,640      |

<sup>1</sup> Although Bell Atlantic and GTE had not merged as of March 31, 1999, their data were combined so that comparisons across years could be made.

Source: Raw data provided by National Payphone Clearinghouse. Rollups performed by the Industry Analysis Division of the FCC.

## 9 Local Telephone Competition

For most of the past century, households and businesses had no choice in selecting their local telephone company. In the 1980s, competitive access providers (CAPs) began to market to business customers access services provided over CAPs' wired networks. To some extent they also carried local telephone calls among their customers. In the 1990s, some CAPs and other companies, including affiliates of cable television companies and local service divisions of long distance companies, began to offer local telephone calling services to a broader range of customers. Companies with operations in larger cities added operations in smaller cities, where the typical customer is more likely to be a small or medium-sized business than a large business, and some new companies focused on smaller cities from the beginning. The newer competitors are often called competitive local exchange carriers (CLECs), although the terms CAPs and CLECs are sometimes used interchangeably.

The Telecommunications Act of 1996 (1996 Act) contemplated three incrementally powerful vehicles for competitors to enter local telephone service markets. First, CLECs may resell the services of incumbent local exchange carriers (ILECs). Second, CLECs may make use of ILEC facilities, for example, by leasing ILEC unbundled network element (UNE) loops to use in combination with the CLECs' own switching capabilities, or by leasing the so-called UNE-platform that combines the loop with ILEC switching services. (Here, we use the term "UNE loop" to refer to these and other combinations of ILEC unbundled network elements that include the UNE loop.) Third, CLECs may build the complete set of facilities they need to compete. Individual competitors have used various combinations of these methods at different times.

### 1. CLEC Share of Telephone Service Lines

Table 9.1 shows that, as of December 31, 2000, CLECs provided 16.4 million (or 8.5%) of the approximately 194 million nationwide local telephone service lines to end-user customers, according to information reported semiannually in the Commission's "Local Competition and Broadband" data collection program (FCC Form 477). By contrast, CLECs provided 8.3 million (or 4.4%) of nationwide local telephone service lines at the end of 1999. This represents a 97% growth in CLEC market size during the year 2000. Table 9.2 indicates that about 60% of the CLEC local telephone lines served medium and large business, institutional, and government customers at the end of the year 2000. By contrast, about 20% of the ILEC local telephone lines served such customers.

About one-third of CLEC end-user customer lines are served over "local loop" facilities that the CLECs own, according to information CLECs report to the Commission, which is summarized in Table 9.3. To serve the remainder of their local telephone service lines, CLECs resell the services of ILECs or use UNE loops that they lease from other carriers. As shown in Table 9.4, ILECs reported providing other carriers about 6.8 million lines on a resale basis, at year-end 2000, compared to over 5 million UNE loops. The number of UNE loops provided to CLECs has increased rapidly since the end of 1997 (when the Commission began to survey large ILECs for this information) and increased by 62% during the last half of the year 2000.

The Commission's semiannual data collection provides information about CLEC local telephone service lines (and thus the CLEC share of total end-user customer lines in service) in individual states.

See Table 9.5. Relatively large numbers of CLEC lines are associated with the more populous states. With respect to the calculated CLEC share of local telephone lines in service, however, relatively large values are reported for some less populous states, such as Kansas, Louisiana, and Minnesota, as well as for some more populous states, such as New York and Texas.

## **2. CLEC Share of Local Telephone Service Revenues**

Table 9.6 shows that carriers competing with the ILECs nearly doubled their local telephone service revenues from 1998 to 1999 – from \$3.5 billion to \$6.3 billion. The share of nationwide local telephone service revenues claimed by the competitors increased from 3.5% in 1998 to 5.8% in 1999.

## **3. Telephone Numbers Transferred Among Carriers**

Table 9.7 presents information on telephone numbers “ported” (transferred) from one telephone switch to another (usually between carriers). Telephone numbers are transferred between local switches for a variety of reasons. For instance, some telephone numbers are ported from one carrier to another as part of a telephone number conservation measure known as number pooling, which is where carriers with spare telephone numbers port large blocks of numbers to a carrier in need of numbers. Such quantities appear in the first set of columns in Table 9.7.

Telephone numbers are also ported between carriers for other reasons, including, in particular, accommodating customers who switch local telephone service providers and wish to keep their same telephone numbers. Quantities of telephone numbers transferred between local telephone companies to accommodate customer requests and for other, non-pooling, reasons appear in the second set of columns. Over 11.8 million such telephone numbers were transferred as of June 1, 2001. Most, but not all of those 11.8 million numbers, were ported from ILECs to CLECs, but some of them were ported from CLECs to ILECs, and others from CLECs to CLECs.

Finally, carriers sometimes port numbers to themselves, to enable telephone customers to be hooked up to a switch that had no other available telephone numbers. Such quantities appear in the third set of columns. In all, as of June 1, 2001, over 15.4 million telephone numbers had been transferred.

This information is developed from the telephone number porting database, managed by the Local Number Portability Administrator (currently NeuStar, Inc.). The database contains all telephone numbers that are ported at that point in time. (In order to protect consumer privacy, the commission receives the information in such a way that prevents it from determining if a particular telephone number has been ported or not.) If a telephone number is ported a second time, the database contains only the information from the most recent port. Monthly “snapshots” of the database are taken, which allow the Commission to determine the number of telephone numbers that have been ported, the reason those numbers were ported, and the date that the telephone-number record in the database was created. For most telephone-number records, the date reflects the date that the telephone number was most recently ported. Some records, however, have been affected by area code changes, so the date reflects not the porting date, but the date the telephone-number record was updated to account for the area code change. Although not perfect, sequential snapshots of the database should help quantify both the number of customer lines served by competitive local telephone carriers over time, and telephone number churn. Table 9.7 shows the same information at three different points in time – June 1, 2001,

January 1, 2001, and January 1, 2000.





**Table 9.1**  
**Total End-User Lines Reported**

|               | <b>ILEC Lines</b> | <b>CLEC Lines</b> | <b>Total</b> | <b>CLEC Share</b> |
|---------------|-------------------|-------------------|--------------|-------------------|
| December 1999 | 181,307,695       | 8,318,244         | 189,625,939  | 4.4%              |
| June 2000     | 178,864,907       | 12,746,924        | 191,611,831  | 6.7               |
| December 2000 | 177,420,655       | 16,397,393        | 193,818,048  | 8.5               |

Source: Industry Analysis Division, *Local Telephone Competition: Status as of December 31, 2000*.

**Table 9.2**  
**End-User Lines by Customer Type**

|               | <b>ILECs</b>                            |                 |   | <b>CLECs</b>                            |                 |   |
|---------------|---|-----------------|---|---|-----------------|---|
|               | <b>Residential &amp; Small Business</b> | <b>Other 1/</b> | <b>% Residential &amp; Small Business</b> | <b>Residential &amp; Small Business</b> | <b>Other 1/</b> | <b>% Residential &amp; Small Business</b> |
| December 1999 | 143,388,368                             | 37,919,327      | 79%                                       | 3,373,662                               | 4,944,582       | 41%                                       |
| June 2000     | 140,486,770                             | 38,378,137      | 79  | 4,597,807                               | 8,149,117       | 36  |
| December 2000 | 139,765,099                             | 37,655,556      | 79  | 6,688,062                               | 9,709,331       | 41  |

1/ Medium and large business, institutional, and government customers.

Source: Industry Analysis Division, *Local Telephone Competition: Status as of December 31, 2000*.

**Table 9.3**  
**Reporting Competitive Local Exchange Carriers**  
**(End-User Lines in Thousands)**

| Date          | CLECs Reporting | Total End-User Lines | Acquired Lines 1/ | Percent | CLEC Owned Lines | Percent |
|---------------|-----------------|----------------------|-------------------|---------|------------------|---------|
| December 1999 | 81              | 8,318                | 5,471             | 65.8 %  | 2,847            | 34.2 %  |
| June 2000     | 76              | 12,747               | 8,443             | 66.2    | 4,304            | 33.8    |
| December 2000 | 87              | 16,397               | 10,649            | 64.9    | 5,748            | 35.1    |

1/ Lines acquired from other carriers as UNE loops or under resale arrangements.

Source: Industry Analysis Division, *Local Telephone Competition: Status as of December 31, 2000*.

**Table 9.4**  
**Reporting Incumbent Local Exchange Carriers**  
**(Lines in Thousands)**

| Date 1/       | ILECs Reporting | Total Lines | End-User Lines | Lines Provided to Other Carriers |                  |        |                        |
|---------------|-----------------|-------------|----------------|----------------------------------|------------------|--------|------------------------|
|               |                 |             |                | Lines Resold                     | UNE Loops Leased | Total  | Percent of Total Lines |
| December 1997 | 9               | 159,008     | 157,132        | 1,743                            | 133              | 1,876  | 1.2 %                  |
| June 1998     | 8               | 161,810     | 159,118        | 2,448                            | 244              | 2,692  | 1.7                    |
| December 1998 | 7               | 164,614     | 161,191        | 3,062                            | 361              | 3,423  | 2.1                    |
| June 1999     | 7               | 167,177     | 162,909        | 3,583                            | 685              | 4,268  | 2.6                    |
| December 1999 | 168             | 187,431     | 181,308        | 4,649                            | 1,474            | 6,123  | 3.3                    |
| June 2000     | 160             | 187,784     | 178,865        | 5,662                            | 3,257            | 8,919  | 4.7                    |
| December 2000 | 170             | 189,512     | 177,421        | 6,822                            | 5,269            | 12,091 | 6.4                    |

1/ Data for December 1997 through June 1999 are from Common Carrier Bureau voluntary surveys. Data for December 1999 and June 2000 are from FCC Form 477 filings.

Source: Industry Analysis Division, *Local Telephone Competition: Status as of December 31, 2000*.

**Table 9.5**  
**End-User Lines Served by Reporting Local Exchange Carriers**  
**(As of December 31, 2000)**

| State                | ILECs       | CLECs      | Total       | CLEC Share |
|----------------------|-------------|------------|-------------|------------|
| Alabama              | 2,351,704   | 191,299    | 2,543,003   | 8 %        |
| Alaska               | 481,684     | *          | *           | *          |
| Arizona              | 3,073,779   | 146,480    | 3,220,259   | 5          |
| Arkansas             | 1,733,035   | *          | *           | *          |
| California           | 23,467,042  | 1,492,585  | 24,959,627  | 6          |
| Colorado             | 2,833,948   | 286,955    | 3,120,903   | 9          |
| Connecticut          | 2,422,012   | 154,349    | 2,576,361   | 6          |
| Delaware             | 555,913     | *          | *           | *          |
| District of Columbia | 922,531     | 94,850     | 1,017,381   | 9          |
| Florida              | 11,079,693  | 1,007,756  | 12,087,449  | 8          |
| Georgia              | 4,820,788   | 551,316    | 5,372,104   | 10         |
| Hawaii               | 744,205     | 0          | 744,205     | 0          |
| Idaho                | 733,580     | *          | *           | *          |
| Illinois             | 7,887,152   | 831,917    | 8,719,069   | 10         |
| Indiana              | 3,576,825   | 209,660    | 3,786,485   | 6          |
| Iowa                 | 1,413,303   | 164,069    | 1,577,372   | 10         |
| Kansas               | 1,520,616   | 220,328    | 1,740,944   | 13         |
| Kentucky             | 2,122,021   | 56,392     | 2,178,413   | 3          |
| Louisiana            | 2,415,935   | 380,947    | 2,796,882   | 14         |
| Maine                | 804,652     | *          | *           | *          |
| Maryland             | 3,802,622   | 165,502    | 3,968,124   | 4          |
| Massachusetts        | 4,252,502   | 509,731    | 4,762,233   | 11         |
| Michigan             | 6,283,406   | 382,073    | 6,665,479   | 6          |
| Minnesota            | 2,961,241   | 503,775    | 3,465,016   | 15         |
| Mississippi          | 1,304,145   | 68,891     | 1,373,036   | 5          |
| Missouri             | 3,485,411   | 203,537    | 3,688,948   | 6          |
| Montana              | 529,878     | *          | *           | *          |
| Nebraska             | 949,217     | *          | *           | *          |
| Nevada               | 1,394,708   | *          | *           | *          |
| New Hampshire        | 805,143     | 52,137     | 857,280     | 6          |
| New Jersey           | 6,747,131   | 323,680    | 7,070,811   | 5          |
| New Mexico           | 957,195     | *          | *           | *          |
| New York             | 10,962,969  | 2,769,814  | 13,732,783  | 20         |
| North Carolina       | 5,071,853   | 286,436    | 5,358,289   | 5          |
| North Dakota         | 317,270     | *          | *           | *          |
| Ohio                 | 6,935,139   | 264,461    | 7,199,600   | 4          |
| Oklahoma             | 1,636,845   | 102,456    | 1,739,301   | 6          |
| Oregon               | 2,109,510   | 70,221     | 2,179,731   | 3          |
| Pennsylvania         | 8,017,391   | 870,618    | 8,888,009   | 10         |
| Puerto Rico          | 1,299,291   | *          | *           | *          |
| Rhode Island         | 627,784     | *          | *           | *          |
| South Carolina       | 2,260,645   | 108,233    | 2,368,878   | 5          |
| South Dakota         | 309,349     | *          | *           | *          |
| Tennessee            | 3,291,602   | 296,281    | 3,587,883   | 8          |
| Texas                | 12,063,098  | 1,687,586  | 13,750,684  | 12         |
| Utah                 | 1,174,625   | 114,649    | 1,289,274   | 9          |
| Vermont              | 400,929     | *          | *           | *          |
| Virgin Islands       | NA          | 0          | 0           | 0          |
| Virginia             | 4,317,626   | 414,432    | 4,732,058   | 9          |
| Washington           | 3,784,183   | 309,482    | 4,093,665   | 8          |
| West Virginia        | 927,432     | *          | *           | *          |
| Wisconsin            | 3,223,663   | 321,720    | 3,545,383   | 9          |
| Wyoming              | 256,434     | *          | *           | *          |
| Nationwide           | 177,420,655 | 16,397,393 | 193,818,048 | 8 %        |

NA - Not Applicable

Note: Carriers with under 10,000 lines in a state were not required to report.

\* Data withheld to maintain firm confidentiality.

Source: Industry Analysis Division, *Local Telephone Competition: Status as of December 31, 2000*.

**Table 9.6**  
**Nationwide Local Service Revenues and New Competitors' Share 1/**  
**(Dollar Amounts Shown in Millions)**

|   | TRS Data      |               |               |               | TRS & USF Data |               | Form 499-A Data |
|---|---------------|---------------|---------------|---------------|----------------|---------------|-----------------|
|   | 1993          | 1994          | 1995          | 1996          | 1997           | 1998          | 1999            |
| <b>Number of Local Competitors</b>  |               |               |               |               |                |               |                 |
| RBOCs & Other Incumbent LECs  | 1,281         | 1,347         | 1,347         | 1,376         | 1,410          | 1,348         | 1,335           |
| CAPs & CLECs  | 20            | 30            | 57            | 94            | 129            | 212           | 349             |
| Local Resellers, Shared Tenant,<br>Private Carriers, & Other Local  | NA            | NA            | NA            | 25            | 18             | 64            | 147             |
| All Other Carriers Reporting  |               |               |               |               |                |               |                 |
| <u>Local Exchange Service Revenues</u>  | <u>NA</u>     | <u>NA</u>     | <u>NA</u>     | <u>74</u>     | <u>109</u>     | <u>133</u>    | <u>143</u>      |
| Total   | 1,301         | 1,377         | 1,404         | 1,569         | 1,666          | 1,757         | 1,974           |
| <b>Local Service Revenues 2/</b>  |               |               |               |               |                |               |                 |
| Incumbent LECs  |               |               |               |               |                |               |                 |
| Bell Operating Companies 3/   | \$58,838      | \$61,415      | \$65,485      | \$70,290      | \$68,028       | \$69,801      | \$76,586        |
| <u>Other Incumbent LECs 3/</u>  | <u>20,894</u> | <u>22,507</u> | <u>24,269</u> | <u>24,899</u> | <u>24,960</u>  | <u>26,989</u> | <u>26,084</u>   |
| Total 3/  | 79,732        | 83,922        | 89,754        | 95,189        | 92,988         | 96,790        | 102,670         |
| Local Service Competitors   |               |               |               |               |                |               |                 |
| CAPs & CLECs  | 174           | 269           | 595           | 949           | 1,556          | 2,393         | 4,505           |
| Local Resellers, Shared Tenant,<br>Private Carriers, & Other Local  | NA            | NA            | NA            | NA            | 224            | 329           | 522             |
| All Other Carriers (Local Exchange<br><u>Service Revenues Only) 4/</u>                                      | <u>46</u>     | <u>32</u>     | <u>56</u>     | <u>59</u>     | <u>381</u>     | <u>809</u>    | <u>1,319</u>    |
| Total   | 220           | 301           | 651           | 1,008         | 2,161          | 3,530         | 6,347           |
| Total   | \$79,952      | \$84,224      | \$90,405      | \$96,197      | \$95,149       | \$100,320     | \$109,016       |
| <b>Share of Local Service Revenues</b>  |               |               |               |               |                |               |                 |
| Incumbent LECs  |               |               |               |               |                |               |                 |
| Bell Operating Companies  | 73.6%         | 72.9%         | 72.4%         | 73.1%         | 71.5%          | 69.6%         | 70.3%           |
| <u>Other Incumbent LECs</u>   | <u>26.1%</u>  | <u>26.7%</u>  | <u>26.8%</u>  | <u>25.9%</u>  | <u>26.2%</u>   | <u>26.9%</u>  | <u>23.9%</u>    |
| Total   | 99.7%         | 99.6%         | 99.3%         | 99.0%         | 97.7%          | 96.5%         | 94.2%           |
| Local Service Competitors   |               |               |               |               |                |               |                 |
| CAPs & CLECs  | 0.2%          | 0.3%          | 0.7%          | 1.0%          | 1.6%           | 2.4%          | 4.1%            |
| Local Resellers, Shared Tenant,<br>Private Carriers, & Other Local  | NA            | NA            | NA            | NA            | 0.2%           | 0.3%          | 0.5%            |
| <u>All Other Carriers</u>   | <u>0.1%</u>   | <u>0.0%</u>   | <u>0.1%</u>   | <u>0.1%</u>   | <u>0.4%</u>    | <u>0.8%</u>   | <u>1.2%</u>     |
| Total   | 0.3%          | 0.4%          | 0.7%          | 1.0%          | 2.3%           | 3.5%          | 5.8%            |
| <b>Total Telecommunications Revenues</b><br>(Including Payphone, Mobile, & Toll Service)                    |               |               |               |               |                |               |                 |
| Incumbent LECs 3/   | \$95,228      | \$98,431      | \$102,820     | \$107,905     | \$105,154      | \$108,234     | \$112,216       |
| Local Competitors   | 191           | 274           | 637           | 1,012         | 2,481          | 4,034         | 6,508           |
| Ratio of ILEC Total Telecommunications<br>Revenues to Local Competitor<br>Total Telecommunications Revenues | 498 : 1       | 351 : 1       | 165 : 1       | 107 : 1       | 42 : 1         | 27 : 1        | 17 : 1          |

NA - Not Available.

- 1/ Some previously published data have been revised. Some breakouts are not available prior to 1997 due to differences in how data were reported.
- 2/ For 1993 through 1996, for most categories of carriers, local service revenues include revenues from the following TRS reporting categories: local exchange, local private line, other local services, interstate access services, and intrastate access services. The amounts shown do not include pay telephone, mobile, or toll service revenues. See also footnote 4/. 1998 revenues for carriers that filed TRS worksheets but not universal service worksheets was estimated using 1998 TRS worksheets. These worksheets contain carrier revenue data for calendar year 1997.
- 3/ Incumbent LEC local service revenues for 1996 and prior years include significant amounts of yellow pages, billing and collection, and other revenues that were reported as other local service revenues. If these revenues were included in 1997, incumbent LECs would show significant revenue growth from 1996 to 1997. Inside wire maintenance was included in local service revenues in 1997 but not thereafter.
- 4/ Toll carriers typically provide resold special access and private line services as part of toll service operations. Accordingly, the table shows local exchange revenues rather than all local revenues for these carriers.

Sources: Data filed on FCC Forms 431, 457, and 499-A worksheets. Industry Analysis Division, *Telecommunications Industry Revenues*.

**Table 9.7**  
**Telephone Numbers Transferred or Ported<sup>1</sup>**  
**(Telephone Numbers that Remained Ported as of January 1, 2000)**

| Originally Ported During<br>Year Month |           | Transferred Between Carriers |            |                                     |            | Transferred Within Same Carrier |         | Total Numbers Transferred |
|--|-----------|------------------------------|------------|-------------------------------------|------------|---------------------------------|---------|---------------------------|
|  |           | Pooling                      |            | Customer Requests and Other Reasons |            | Numbers                         |         |                           |
|  |           | Numbers Ported               | Cumulative | Numbers Ported                      | Cumulative |                                 |         |                           |
| 1997                                   | December  | 0                            | 0          | 80                                  | 80         | 0                               | 0       | 80                        |
| 1998                                   | January   | 0                            | 0          | 202                                 | 282        | 0                               | 0       | 282                       |
|  | February  | 0                            | 0          | 11                                  | 293        | 0                               | 0       | 293                       |
|  | March     | 13                           | 13         | 231                                 | 524        | 0                               | 0       | 537                       |
|  | April     | 16                           | 29         | 547                                 | 1,071      | 0                               | 0       | 1,100                     |
|  | May       | 20                           | 49         | 1,975                               | 3,046      | 0                               | 0       | 3,095                     |
|  | June      | 27                           | 76         | 5,257                               | 8,303      | 0                               | 0       | 8,379                     |
|  | July      | 616                          | 692        | 14,494                              | 22,797     | 761                             | 761     | 24,250                    |
|  | August    | 1,723                        | 2,415      | 29,918                              | 52,715     | 2,192                           | 2,953   | 58,083                    |
|  | September | 2,209                        | 4,624      | 36,011                              | 88,726     | 1,000                           | 3,953   | 97,303                    |
|  | October   | 3,462                        | 8,086      | 100,992                             | 189,718    | 1,000                           | 4,953   | 202,757                   |
|  | November  | 12,467                       | 20,553     | 108,952                             | 298,670    | 0                               | 4,953   | 324,176                   |
|  | December  | 21,736                       | 42,289     | 147,071                             | 445,741    | 2,947                           | 7,900   | 495,930                   |
| 1999                                   | January   | 7,038                        | 49,327     | 158,256                             | 603,997    | 8,041                           | 15,941  | 669,265                   |
|  | February  | 6,614                        | 55,941     | 180,952                             | 784,949    | 4,000                           | 19,941  | 860,831                   |
|  | March     | 8,236                        | 64,177     | 214,692                             | 999,641    | 44,599                          | 64,540  | 1,128,358                 |
|  | April     | 10,078                       | 74,255     | 225,649                             | 1,225,290  | 58,743                          | 123,283 | 1,422,828                 |
|  | May       | 16,428                       | 90,683     | 246,746                             | 1,472,036  | 6,862                           | 130,145 | 1,692,864                 |
|  | June      | 21,850                       | 112,533    | 298,309                             | 1,770,345  | 41,914                          | 172,059 | 2,054,937                 |
|  | July      | 19,369                       | 131,902    | 296,385                             | 2,066,730  | 15,002                          | 187,061 | 2,385,693                 |
|  | August    | 38,539                       | 170,441    | 318,941                             | 2,385,671  | 13,811                          | 200,872 | 2,756,984                 |
|  | September | 48,739                       | 219,180    | 341,902                             | 2,727,573  | 21,997                          | 222,869 | 3,169,622                 |
|  | October   | 47,161                       | 266,341    | 397,897                             | 3,125,470  | 18,999                          | 241,868 | 3,633,679                 |
|  | November  | 67,299                       | 333,640    | 352,942                             | 3,478,412  | 18,999                          | 260,867 | 4,072,919                 |
|  | December  | 40,936                       | 374,576    | 430,141                             | 3,908,553  | 7,000                           | 267,867 | 4,550,996                 |

See footnote(s) at end of table.

**Table 9.7**  
**Telephone Numbers Transferred or Ported<sup>1</sup> - Continued**  
**(Telephone Numbers that Remained Ported as of January 1, 2001)**

| Originally<br>Ported During<br>Year Month | Transferred Between Carriers |            |  |            | Transferred Within<br>Same Carrier |            | Total<br>Numbers<br>Transferred |
|---|------------------------------|------------|--|------------|------------------------------------|------------|---------------------------------|
|   | Pooling                      |            | Customer Requests<br>and Other Reasons |            |                                    |            |                                 |
|   | Numbers<br>Ported            | Cumulative | Numbers<br>Ported                      | Cumulative | Numbers<br>Ported                  | Cumulative |                                 |
| 1997 December                             | 0                            | 0          | 80                                     | 80         | 0                                  | 0          | 80                              |
| 1998 January                              | 0                            | 0          | 202                                    | 282        | 0                                  | 0          | 282                             |
| February                                  | 0                            | 0          | 4                                      | 286        | 0                                  | 0          | 286                             |
| March                                     | 11                           | 11         | 227                                    | 513        | 0                                  | 0          | 524                             |
| April                                     | 16                           | 27         | 477                                    | 990        | 0                                  | 0          | 1,017                           |
| May                                       | 10                           | 37         | 1,833                                  | 2,823      | 0                                  | 0          | 2,860                           |
| June                                      | 15                           | 52         | 4,388                                  | 7,211      | 0                                  | 0          | 7,263                           |
| July                                      | 387                          | 439        | 12,003                                 | 19,214     | 761                                | 761        | 20,414                          |
| August                                    | 1,024                        | 1,463      | 16,761                                 | 35,975     | 2,192                              | 2,953      | 40,391                          |
| September                                 | 977                          | 2,440      | 25,795                                 | 61,770     | 0                                  | 2,953      | 67,163                          |
| October                                   | 2,032                        | 4,472      | 76,847                                 | 138,617    | 1,000                              | 3,953      | 147,042                         |
| November                                  | 1,854                        | 6,326      | 88,481                                 | 227,098    | 0                                  | 3,953      | 237,377                         |
| December                                  | 12,031                       | 18,357     | 98,265                                 | 325,363    | 2,947                              | 6,900      | 350,620                         |
| 1999 January                              | 1,669                        | 20,026     | 115,830                                | 441,193    | 8,009                              | 14,909     | 476,128                         |
| February                                  | 1,520                        | 21,546     | 136,472                                | 577,665    | 3,998                              | 18,907     | 618,118                         |
| March                                     | 3,015                        | 24,561     | 170,355                                | 748,020    | 43,638                             | 62,545     | 835,126                         |
| April                                     | 3,210                        | 27,771     | 186,457                                | 934,477    | 52,883                             | 115,428    | 1,077,676                       |
| May                                       | 5,794                        | 33,565     | 192,003                                | 1,126,480  | 6,814                              | 122,242    | 1,282,287                       |
| June                                      | 11,709                       | 45,274     | 230,662                                | 1,357,142  | 41,660                             | 163,902    | 1,566,318                       |
| July                                      | 5,677                        | 50,951     | 232,604                                | 1,589,746  | 14,948                             | 178,850    | 1,819,547                       |
| August                                    | 22,305                       | 73,256     | 244,051                                | 1,833,797  | 13,669                             | 192,519    | 2,099,572                       |
| September                                 | 20,494                       | 93,750     | 249,961                                | 2,083,758  | 21,726                             | 214,245    | 2,391,753                       |
| October                                   | 26,437                       | 120,187    | 303,478                                | 2,387,236  | 18,958                             | 233,203    | 2,740,626                       |
| November                                  | 49,914                       | 170,101    | 287,792                                | 2,675,028  | 17,657                             | 250,860    | 3,095,989                       |
| December                                  | 24,457                       | 194,558    | 339,180                                | 3,014,208  | 6,854                              | 257,714    | 3,466,480                       |
| 2000 January                              | 31,495                       | 226,053    | 312,501                                | 3,326,709  | 10,459                             | 268,173    | 3,820,935                       |
| February                                  | 44,564                       | 270,617    | 353,516                                | 3,680,225  | 49,940                             | 318,113    | 4,268,955                       |
| March                                     | 41,965                       | 312,582    | 381,718                                | 4,061,943  | 24,808                             | 342,921    | 4,717,446                       |
| April                                     | 75,207                       | 387,789    | 345,852                                | 4,407,795  | 107,703                            | 450,624    | 5,246,208                       |
| May                                       | 72,097                       | 459,886    | 382,138                                | 4,789,933  | 116,975                            | 567,599    | 5,817,418                       |
| June                                      | 96,610                       | 556,496    | 409,202                                | 5,199,135  | 64,880                             | 632,479    | 6,388,110                       |
| July                                      | 84,329                       | 640,825    | 369,708                                | 5,568,843  | 70,980                             | 703,459    | 6,913,127                       |
| August                                    | 70,614                       | 711,439    | 433,900                                | 6,002,743  | 102,263                            | 805,722    | 7,519,904                       |
| September                                 | 41,154                       | 752,593    | 485,944                                | 6,488,687  | 64,803                             | 870,525    | 8,111,805                       |
| October                                   | 82,796                       | 835,389    | 520,694                                | 7,009,381  | 111,046                            | 981,571    | 8,826,341                       |
| November                                  | 60,131                       | 895,520    | 495,679                                | 7,505,060  | 139,000                            | 1,120,571  | 9,521,151                       |
| December                                  | 51,303                       | 946,823    | 580,047                                | 8,085,107  | 72,954                             | 1,193,525  | 10,225,455                      |

See footnote(s) at end of table.

**Table 9.7**  
**Telephone Numbers Transferred or Ported<sup>1</sup> - Contintued**  
**(Telephone Numbers that Remained Ported as of June 1, 2001)**

| Year | Originally Ported During Month | Transferred Between Carriers |            |                                     |            | Transferred Within Same Carrier |            | Total Numbers Transferred |
|------|--------------------------------|------------------------------|------------|-------------------------------------|------------|---------------------------------|------------|---------------------------|
|      |                                | Pooling                      |            | Customer Requests and Other Reasons |            | Numbers Ported                  | Cumulative |                           |
|      |                                | Numbers Ported               | Cumulative | Numbers Ported                      | Cumulative |                                 |            |                           |
| 1997 | December                       | 0                            | 0          | 80                                  | 80         | 0                               | 0          | 80                        |
| 1998 | January                        | 0                            | 0          | 202                                 | 282        | 0                               | 0          | 282                       |
|      | February                       | 0                            | 0          | 8                                   | 290        | 0                               | 0          | 290                       |
|      | March                          | 12                           | 12         | 229                                 | 519        | 0                               | 0          | 531                       |
|      | April                          | 16                           | 28         | 474                                 | 993        | 0                               | 0          | 1,021                     |
|      | May                            | 16                           | 44         | 1,696                               | 2,689      | 0                               | 0          | 2,733                     |
|      | June                           | 19                           | 63         | 4,272                               | 6,961      | 0                               | 0          | 7,024                     |
|      | July                           | 356                          | 419        | 12,657                              | 19,618     | 761                             | 761        | 20,798                    |
|      | August                         | 1,114                        | 1,533      | 24,490                              | 44,108     | 2,192                           | 2,953      | 48,594                    |
|      | September                      | 1,524                        | 3,057      | 31,125                              | 75,233     | 0                               | 2,953      | 81,243                    |
|      | October                        | 2,552                        | 5,609      | 85,841                              | 161,074    | 1,000                           | 3,953      | 170,636                   |
|      | November                       | 11,297                       | 16,906     | 97,487                              | 258,561    | 0                               | 3,953      | 279,420                   |
|      | December                       | 20,795                       | 37,701     | 124,608                             | 383,169    | 2,947                           | 6,900      | 427,770                   |
| 1999 | January                        | 5,852                        | 43,553     | 133,788                             | 516,957    | 7,869                           | 14,769     | 575,279                   |
|      | February                       | 4,482                        | 48,035     | 155,213                             | 672,170    | 3,998                           | 18,767     | 738,972                   |
|      | March                          | 6,871                        | 54,906     | 179,709                             | 851,879    | 43,377                          | 62,144     | 968,929                   |
|      | April                          | 7,379                        | 62,285     | 193,591                             | 1,045,470  | 48,471                          | 110,615    | 1,218,370                 |
|      | May                            | 15,069                       | 77,354     | 217,100                             | 1,262,570  | 6,763                           | 117,378    | 1,457,302                 |
|      | June                           | 18,454                       | 95,808     | 258,799                             | 1,521,369  | 41,641                          | 159,019    | 1,776,196                 |
|      | July                           | 11,383                       | 107,191    | 262,947                             | 1,784,316  | 13,944                          | 172,963    | 2,064,470                 |
|      | August                         | 33,151                       | 140,342    | 281,763                             | 2,066,079  | 13,647                          | 186,610    | 2,393,031                 |
|      | September                      | 42,682                       | 183,024    | 292,543                             | 2,358,622  | 21,687                          | 208,297    | 2,749,943                 |
|      | October                        | 35,926                       | 218,950    | 357,426                             | 2,716,048  | 18,821                          | 227,118    | 3,162,116                 |
|      | November                       | 57,236                       | 276,186    | 312,822                             | 3,028,870  | 17,626                          | 244,744    | 3,549,800                 |
|      | December                       | 34,452                       | 310,638    | 383,310                             | 3,412,180  | 6,840                           | 251,584    | 3,974,402                 |
| 2000 | January                        | 36,169                       | 346,807    | 330,112                             | 3,742,292  | 10,357                          | 261,941    | 4,351,040                 |
|      | February                       | 51,431                       | 398,238    | 380,411                             | 4,122,703  | 43,929                          | 305,870    | 4,826,811                 |
|      | March                          | 52,097                       | 450,335    | 415,145                             | 4,537,848  | 24,729                          | 330,599    | 5,318,782                 |
|      | April                          | 80,194                       | 530,529    | 378,204                             | 4,916,052  | 103,398                         | 433,997    | 5,880,578                 |
|      | May                            | 75,310                       | 605,839    | 412,396                             | 5,328,448  | 116,968                         | 550,965    | 6,485,252                 |
|      | June                           | 107,459                      | 713,298    | 444,683                             | 5,773,131  | 62,800                          | 613,765    | 7,100,194                 |
|      | July                           | 95,098                       | 808,396    | 400,654                             | 6,173,785  | 67,980                          | 681,745    | 7,663,926                 |
|      | August                         | 76,472                       | 884,868    | 473,180                             | 6,646,965  | 99,246                          | 780,991    | 8,312,824                 |
|      | September                      | 58,733                       | 943,601    | 504,009                             | 7,150,974  | 54,599                          | 835,590    | 8,930,165                 |
|      | October                        | 93,278                       | 1,036,879  | 550,264                             | 7,701,238  | 99,044                          | 934,634    | 9,672,751                 |
|      | November                       | 63,404                       | 1,100,283  | 522,147                             | 8,223,385  | 130,000                         | 1,064,634  | 10,388,302                |
|      | December                       | 64,207                       | 1,164,490  | 598,026                             | 8,821,411  | 67,960                          | 1,132,594  | 11,118,495                |
| 2001 | January                        | 104,381                      | 1,268,871  | 559,836                             | 9,381,247  | 187,726                         | 1,320,320  | 11,970,438                |
|      | February                       | 84,196                       | 1,353,067  | 536,369                             | 9,917,616  | 61,948                          | 1,382,268  | 12,652,951                |
|      | March                          | 122,681                      | 1,475,748  | 649,482                             | 10,567,098 | 100,898                         | 1,483,166  | 13,526,012                |
|      | April                          | 197,132                      | 1,672,880  | 581,602                             | 11,148,700 | 208,438                         | 1,691,604  | 14,513,184                |
|      | May                            | 118,245                      | 1,791,125  | 702,679                             | 11,851,379 | 130,540                         | 1,822,144  | 15,464,648                |

<sup>1</sup> Some telephone numbers are ported to another carrier, and then sent back to the original carrier. During the time the telephone number is ported, the number will be included in this table. When the number is sent back to the original carrier, it will no longer be included in this table.

Source: Raw data from Local Number Portability Administrator (NeuStar, Inc.). Rollups performed by the Industry Analysis Division, FCC.



## **10 Long Distance Telephone Industry**

Until the 1970s, AT&T had a virtual monopoly on long distance service in the United States. In the 1970s, competitors such as MCI and Sprint began also to offer long distance service. With the gradual emergence of competition, basic rates dropped, calling surged, and AT&T's dominance declined.

More than 700 companies now offer long distance service. These carriers remain subject to the Commission's jurisdiction. The Commission, however, has chosen to rely on competition rather than regulation as much as possible. Thus, the Commission forbears from regulating most aspects of long distance service. Nevertheless, the Commission continues to monitor the long distance market, in part because the market for toll services remains more highly concentrated than many industries.

### **1. Toll Revenues**

In 2000, long distance carriers generated over \$100 billion in toll revenues. Local telephone companies also provide toll service, primarily intrastate calls, and usually within their local service territories. In 2000, local telephone companies provided about \$8 billion of toll service. When combined, the total long distance market was more than \$108 billion. These revenues are shown in Table 10.1.

Toll calls can be divided into three jurisdictional categories—intrastate calls, domestic interstate calls, and international calls. The revenues for each of the three types are shown in Table 10.2. Of considerable interest is the enormous growth (more than 500%) in international revenues from 1984 to 1999.

Toll revenues can also be divided between residential and nonresidential services, as in Table 10.3. In 1999, residential customers generated about 42% of toll revenues.

### **2. Number of Companies**

The number and types of carriers reporting long distance revenues are shown in Table 10.4. The Telecommunications Reporting Worksheet (Form 499-A) requires each filer to select one of 18 categories as best describing its primary line of business. Six of these categories consist of carriers that are primarily engaged in providing long distance service and are collectively described as being toll carriers: interexchange carriers (IXCs), operator service providers (OSPs), other toll service providers, prepaid calling card providers, satellite service providers, and toll resellers.

In 1999, 655 filers identified their primary activity as a toll carrier and 1,777 other carriers reported long distance revenues even though the provision of long distance service is not their primary line of business.

Carrier identification codes (CICs) provide information on the number of firms seeking to acquire certain types of interconnecting arrangements with local telephone companies. Any firm that seeks to use trunk-side connections with local telephone companies is provided a carrier identification code so that traffic can be efficiently routed.

CICs are currently assigned by the North American Numbering Plan Administration (NANPA), which is part of Neustar, Inc. Further information on such codes can be found on the Internet at [www.nanpa.com](http://www.nanpa.com).

Beginning in 1986, a number of corporations, government agencies and other organizations began to acquire carrier identification codes for their own use, rather than for the purpose of providing telecommunications services to others. After that time, the use of such codes to estimate the number of long distance carriers became less reliable. We believe, however, that the number of firms obtaining these codes provides the best information available on the entry of new firms into the long distance market prior to 1986. The number of codes assigned is shown in Table 10.5.

During the late 1980s and 1990s, alternative sources for developing counts of long distance carriers became available. Starting in 1987, information on the number of telephone lines presubscribed to each long distance carrier was collected by NECA because FCC rules required NECA to recover certain expenses from the larger long distance carriers. Pursuant to the 1996 Act, the FCC changed its rules on universal service, and as a result, NECA stopped collecting this information. Information for December 1996 is the last presubscribed line data collected by NECA. Table 10.6 shows several alternative measures of long distance carrier development.

### **3. Long Distance Market Shares**

A generation ago, when the Bell System was still intact, AT&T's local telephone companies provided most local service. At that time, there were no good means of segregating true economic costs of local and long distance services of AT&T's integrated network. At the beginning of 1984, however, AT&T's local operating companies were divested in the settlement of an antitrust case.

After the AT&T divestiture, AT&T's former operating companies were restricted to providing service within their own local access and transport areas (LATAs). Thus, they were precluded from offering toll service that crossed the boundaries of their service territories. As a result, two separate and distinct toll markets emerged.

At first, AT&T competed with small but rapidly growing competitors for calls that crossed LATA boundaries. This market included almost all interstate and international calls. It also included most intrastate toll calls as well. A second and much smaller market consisted of short distance toll calls that did not cross LATA boundaries. This second, intraLATA market was dominated, at least initially, by the local exchange carriers operating within their own service territories.

Over time, the distinctions between the two markets have blurred as customers can now select among competing carriers for their intraLATA calls. In addition, the restrictions preventing AT&T's former affiliates from providing interLATA service were modified by the Telecommunications Act of 1996.

Long-term trends in toll revenues are shown in Table 10.7. Over time, AT&T and the operating companies that previously monopolized telephone service have lost market share to new entrants. By 2000, carriers not even in existence a generation ago accounted for more than half of all long distance telephone toll revenues.

Table 10.8 shows market share information based on the revenues of those firms identified as primarily being long distance carriers. AT&T's 1984 toll revenues were about 90% of those reported by all long distance carriers. By 2000, AT&T's revenues had declined to less than 40% of those reported by all long distance carriers and since 1995, AT&T is no longer regulated as a "dominant" carrier.

Table 10.9 shows market share information based on all toll revenues, including the long distance services provided by local exchange carriers. This broader classification increasingly becomes the relevant classification of the market as these carriers increase their participation in a nationwide market. By any measure, the long-term trends have shown increasing competition and decreasing concentration.

#### **4. Residential Toll Revenues**

Bill harvesting data collected by TNS Telecoms (TNS) provides information on market shares in the long distance residential market, as opposed to the overall market for toll service. The bill harvesting data also provide information on the market shares of long distance carriers by state. Section 15 gives further information on TNS and the bill harvesting data. Table 10.10, which is based on this information, presents nationwide market shares of access lines, residential toll revenue and direct dial minutes from 1995 to 2000. In addition, Table 10.11 presents market shares of residential direct-dial minutes by state for 2000. These tables present long distance market shares for AT&T, MCI WorldCom, and Sprint.

#### **5. Section 271 Applications**

Section 271 of the Communications Act requires the Regional Bell Operating Companies (RBOCs) to apply to the Commission, on a state-by-state basis, for authorization to provide in-region interLATA services. To obtain such authorization pursuant to section 271, the BOC must demonstrate that it satisfies the 14-point competitive checklist, that it will comply with the separate affiliate and nondiscrimination requirements of section 272, and that requested authorization is consistent with the public interest, convenience, and necessity. After a BOC files a section 271 application with the Commission, the Commission has 90 days to determine whether a BOC has taken the statutorily required steps to open its local telecommunications markets to competition.

A BOC applicant must demonstrate either that: A) one or more unaffiliated competing providers of local telephone service to residential and business subscribers is connected to the BOC's network, and that such local telephone service is being "offered by such competing providers either exclusively over their own telephone exchange service facilities or predominately over their own telephone exchange service facilities in combination with the resale of the telecommunications services of another carrier," (commonly referred to as "Track A"); or B) if no potential competing provider has requested to connect to a BOC's network, the BOC has a statement of generally available terms and conditions in place demonstrating that it is ready to allow potential competitors to connect to its facilities

(commonly referred to as “Track B”).

Table 10.12 shows the states in which the BOCs have filed section 271 applications, the date the application was filed, and the application’s resolution date and outcome. At this time, five BOC section 271 applications have been authorized in six states. On December 12, 1999, the first Regional Bell operating company’s application (Bell Atlantic, which is now known as Verizon) was approved by the Commission to provide in-region interLATA service in the state of New York. The second application approved by the Commission was SBC for Texas, authorized on June 30, 2000. Kansas and Oklahoma became the third and fourth states to be approved with the Commission authorizing their joint application on January 22, 2001. The approval of Verizon’s application for Massachusetts on April 16, 2001 and for Connecticut on July 20, 2001 made them the fifth and sixth states to be approved.

Since the passage of the 96 Act, the FCC has denied five long distance applications, and now has approved applications for long distance entry into six states. As of July 25, 2001, there is one pending long distance application before the Commission, Verizon’s for Pennsylvania (filed June 21, 2001). The companies approved must continue to comply with the section 271 checklist requirements as the Commission has a number of enforcement tools at its disposal, including imposing penalties or suspension of approval. Additional information on section 271 applications can be found on the Commission’s web site at [www.fcc.gov/Bureaus/Common\\_Carrier/in-region\\_applications/](http://www.fcc.gov/Bureaus/Common_Carrier/in-region_applications/).

**Table 10.1**  
**Total Toll Service Revenues by Carrier \***  
(Dollar Amounts Shown in Millions)

| Company   | 1984            | 1985            | 1986            | 1987            | 1988            | 1989            | 1990            | 1991            | 1992            |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| AT&T Companies 1/<br>AT&T Communications, Inc.  | \$34,935        | \$36,770        | \$36,514        | \$35,219        | \$35,407        | \$34,549        | \$33,880        | \$34,384        | \$35,495        |
| Alascom, Inc.   | 255             | 271             | 267             | 262             | 272             | 278             | 259             | 338             | 333             |
| Teleport Communications Group, Inc.<br>ACC Long Distance Corp.  |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| WorldCom Companies 2/ 3/<br>WorldCom, Inc.  |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| MCI Telecommunications Corp.  | 1,761           | 2,331           | 3,372           | 3,938           | 4,886           | 6,171           | 7,392           | 8,266           | 9,719           |
| Telecom*USA   | 105             | 201             | 291             | 396             | 524             | 713             |                 |                 |                 |
| WorldCom, Inc.  |                 |                 |                 |                 |                 | 110             | 154             | 263             | 801             |
| Advanced Telecommunications Corp.   | 72              | 86              | 124             | 162             | 178             | 326             | 342             | 356             |                 |
| Metromedia Communications Corp.   |                 |                 |                 |                 |                 | 127             | 381             | 369             | 369             |
| ITT Communication Services, Inc.  | 161             | 241             | 282             | 287             | 379             | 404             |                 |                 |                 |
| Comsystems Network Services   |                 |                 |                 |                 |                 |                 | 130             | 131             | 135             |
| Wiltel, Inc.  |                 |                 |                 |                 |                 | 300             | 376             | 405             | 494             |
| MFS Intelenet, Inc.   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Sprint Companies 4/ 5/<br>Sprint Communications Co.   |                 |                 | 1,141           | 2,592           | 3,405           | 4,320           | 5,041           | 5,378           | 5,658           |
| GTE Sprint  | 1,052           | 1,122           | 779             |                 |                 |                 |                 |                 |                 |
| US Telecom  |                 | 387             | 212             |                 |                 |                 |                 |                 |                 |
| Qwest Companies 6/<br>LCI Int'l Telecom Corp. d/b/a Qwest Comm. Svcs.   |                 |                 |                 |                 |                 | 197             | 215             | 208             | 243             |
| Qwest Communications Corp.<br>USLD Communications, Inc.   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Concert Global Networks USA, LLC 7/<br>Global Crossing Companies 8/<br>Global Crossing Telecommunications, Inc.   |                 | 309             | 450             | 395             | 394             | 334             | 326             | 347             | 376             |
| Lexitel   |                 | 127             |                 |                 |                 |                 |                 |                 |                 |
| Global Crossing Bandwidth, Inc.<br>Global Crossing North American Networks, Inc.<br>Frontier Comm. - North Central Region, Inc.   |                 |                 |                 |                 |                 | 104             | 142             | 155             | 168             |
| International Exchange Network, Ltd. (IXnet, Inc.)<br>BCE, Inc. (Bell Canada Enterprise Companies) 9/<br>Teleglobe USA, Inc.  |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Excel Communications, Inc.<br>Excel Telecommunications, Inc.<br>Telco Communications Group, Inc.<br>eMeritus Communications, Inc.<br>Long Distance Wholesale Club   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Verizon Companies<br>Bell Atlantic Comm, Inc. d/b/a Verizon Long Dist.<br>Verizon Select Services, Inc.   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| IDT Corporation<br>VarTec Telecom, Inc.   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| World Access, Inc. 10/<br>WorldxChange Communications<br>FaciliCom International  |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Star Companies 11/<br>Star Telecommunications, Inc.<br>PT-1 Communications, Inc.<br>PT-1 Long Distance, Inc.  |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Broadwing Companies 12/<br>Broadwing Communications Services, Inc.<br>Broadwing Telecommunications, Inc.  |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Cable & Wireless USA, Inc.  |                 | 146             | 171             | 180             | 218             | 275             | 359             | 406             | 495             |
| Viatel Companies 13/<br>Viatel, Inc.<br>Viatel Services, Inc.   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| McLeodUSA Telecommunications<br>Intermedia Communications, Inc.<br>Talk.com Holding Corp.<br>Williams Communications, Inc.  |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| RSL Companies 14/<br>RSL Communications, Ltd.<br>RSL COM USA, Inc.<br>RSL COM Primecall, Inc.<br>Westinghouse Communications  |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Primus Companies 15/<br>Primus Telecommunications, Inc.<br>Telegroup, Inc.<br>Trescom International, Inc.   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Pacific Gateway Exchange 16/<br>Business Telecom, Inc. 17/<br>ITC^Deltacom Communications, Inc.   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| NOSVA Limited Partnership<br>Network Plus, Inc.<br>Startec Global Operating Company<br>General Communication, Inc.<br>Evercom Systems, Inc.<br>SNET America, Inc.<br>Americatel Corporation<br>Lightyear Communications, Inc.<br>ALLTEL Communications, Inc.<br>New Global Telecom, Inc.<br>Electric Lightwave<br>Touch America Services, Inc.<br>Covista Communications<br>Working Assets Funding Service, Inc.<br>Norlight Telecommunications |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Others 18/  | 414             | 639             | 992             | 1,352           | 1,823           | 2,976           | 3,105           | 3,437           | 4,082           |
| <b>Total Long Distance Carriers</b>   | <b>38,755</b>   | <b>42,630</b>   | <b>44,595</b>   | <b>44,783</b>   | <b>47,487</b>   | <b>51,184</b>   | <b>52,102</b>   | <b>54,443</b>   | <b>58,368</b>   |
| Bell Operating Companies<br>Other Incumbent Local Telephone Cos. 18/<br>CAPs, CLECs & Other Local Telephone Cos. 18/  | 9,037<br>3,364  | 9,026<br>3,159  | 9,599<br>3,274  | 10,268<br>3,468 | 10,668<br>4,445 | 10,549<br>4,291 | 10,578<br>4,112 | 10,066<br>4,049 | 9,718<br>3,897  |
| <b>Total Local Exchange Carriers</b>  | <b>12,401</b>   | <b>12,185</b>   | <b>12,873</b>   | <b>13,736</b>   | <b>15,113</b>   | <b>14,840</b>   | <b>14,690</b>   | <b>14,115</b>   | <b>13,615</b>   |
| <b>Total Toll Service Revenues</b>  | <b>\$51,156</b> | <b>\$54,815</b> | <b>\$57,468</b> | <b>\$58,519</b> | <b>\$62,600</b> | <b>\$66,024</b> | <b>\$66,792</b> | <b>\$68,558</b> | <b>\$71,983</b> |

\* Includes intrastate, interstate and international toll revenues.  
See notes following Table 10.1.

# Year 2000 totals are based on staff estimates.  
10 - 5

**Table 10.1**  
**Total Toll Service Revenues by Carrier \* - Continued**  
(Dollar Amounts Shown in Thousands)

| Company  | 1993            | 1994            | 1995            | 1996            | 1997             | 1998             | 1999             | 2000 #           |
|--|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|------------------|
| AT&T Companies 1/                                  |                 |                 |                 |                 |                  |                  |                  |                  |
| AT&T Communications, Inc.                          | \$35,731        | \$37,166        | \$38,069        | \$39,264        | \$39,470         | \$40,551         | \$39,680         | \$37,647         |
| Alascom, Inc.                                      | 320             | 329             | 325             |                 |                  |                  |                  |                  |
| Teleport Communications Group, Inc.                |                 |                 |                 | 118             | 122              | 123              | 284              | 464              |
| ACC Long Distance Corp.                            |                 |                 |                 |                 |                  |                  |                  |                  |
| WorldCom Companies 2/ 3/                           |                 |                 |                 |                 |                  |                  |                  |                  |
| WorldCom, Inc.                                     |                 |                 |                 |                 |                  | 22,192           | 23,431           | 22,554           |
| MCI Telecommunications Corp.                       | 10,947          | 11,715          | 14,617          | 16,372          | 17,150           |                  |                  |                  |
| Telecom*USA  |                 |                 |                 |                 |                  |                  |                  |                  |
| WorldCom, Inc.                                     | 1,145           | 2,221           | 3,640           | 4,485           | 5,897            |                  |                  |                  |
| Advanced Telecommunications Corp.                  |                 |                 |                 |                 |                  |                  |                  |                  |
| Metromedia Communications Corp.                    | 297             |                 |                 |                 |                  |                  |                  |                  |
| ITT Communication Services, Inc.                   |                 |                 |                 |                 |                  |                  |                  |                  |
| Comsystems Network Services                        | 116             |                 |                 |                 |                  |                  |                  |                  |
| Wiltel, Inc.                                       | 664             | 917             |                 |                 |                  |                  |                  |                  |
| MFS Intelenet, Inc.                                |                 |                 | 118             | 122             |                  |                  |                  |                  |
| Sprint Companies 4/ 5/                             |                 |                 |                 |                 |                  |                  |                  |                  |
| Sprint Communications Co.                          | 6,139           | 6,805           | 7,277           | 7,944           | 8,595            | 7,994            | 9,708            | 9,038            |
| GTE Sprint   |                 |                 |                 |                 |                  |                  |                  |                  |
| US Telecom   |                 |                 |                 |                 |                  |                  |                  |                  |
| Qwest Companies 6/                                 |                 |                 |                 |                 |                  |                  |                  |                  |
| LCI Int'l Telecom Corp. d/b/a Qwest Comm. Svcs.    | 317             | 453             | 671             | 1,103           | 1,001            | 1,664            | 1,394            | 1,271            |
| Qwest Communications Corp.                         |                 |                 |                 |                 |                  | 320              | 517              | 1,773            |
| USLD Communications, Inc.                          | 100             | 136             | 155             | 188             | 241              | 279              | 216              |                  |
| Concert Global Networks USA, LLC 7/                |                 |                 |                 |                 |                  |                  |                  | 2,472            |
| Global Crossing Companies 8/                       |                 |                 |                 |                 |                  |                  |                  |                  |
| Global Crossing Telecommunications, Inc.           | 436             | 568             | 827             | 1,119           | 775              | 874              | 874              | 801              |
| Lexitel  |                 |                 |                 |                 |                  |                  |                  |                  |
| Global Crossing Bandwidth, Inc.                    |                 | 144             | 127             |                 | 324              | 539              | 692              | 1,555            |
| Global Crossing North American Networks, Inc.      | 213             | 306             | 309             | 323             | 223              |                  |                  | 196              |
| Frontier Comm. - North Central Region, Inc.        |                 | 123             | 133             | 121             |                  |                  |                  |                  |
| International Exchange Network, Ltd. (IXnet, Inc.) |                 |                 |                 |                 |                  |                  |                  | 131              |
| BCE, Inc. (Bell Canada Enterprise Companies) 9/    |                 |                 |                 |                 |                  | 275              | 557              | 282              |
| Teleglobe USA, Inc.                                |                 |                 |                 |                 |                  |                  |                  |                  |
| Excel Communications, Inc.                         |                 |                 |                 |                 |                  |                  |                  |                  |
| Excel Telecommunications, Inc.                     |                 | 156             | 363             | 1,091           | 1,179            | 1,219            | 942              | 703              |
| Telco Communications Group, Inc.                   |                 |                 |                 |                 |                  |                  |                  |                  |
| eMeritus Communications, Inc.                      |                 |                 | 215             | 429             | 379              | 264              | 260              | 169              |
| Long Distance Wholesale Club                       |                 |                 |                 |                 | 176              | 121              | 131              |                  |
| Verizon Companies                                  |                 |                 |                 |                 |                  |                  |                  |                  |
| Bell Atlantic Comm, Inc. d/b/a Verizon Long Dist.  |                 |                 |                 |                 | 340              | 607              | 834              | 130              |
| Verizon Select Services, Inc.                      |                 |                 |                 |                 |                  | 376              | 850              | 1,004            |
| IDT Corporation                                    |                 |                 |                 |                 |                  | 836              | 819              | 945              |
| VarTec Telecom, Inc.                               |                 | 107             | 125             | 470             | 820              |                  |                  | 923              |
| World Access, Inc. 10/                             |                 |                 |                 |                 |                  |                  |                  | 914              |
| WorldxChange Communications                        |                 |                 | 115             | 196             | 345              | 308              | 374              |                  |
| FaciliCom International                            |                 |                 |                 |                 |                  | 164              | 202              |                  |
| Star Companies 11/                                 |                 |                 |                 |                 |                  |                  |                  |                  |
| Star Telecommunications, Inc.                      |                 |                 |                 | 140             | 253              | 401              | 443              | 296              |
| PT-1 Communications, Inc.                          |                 |                 |                 | 117             | 358              | 494              | 482              | 270              |
| PT-1 Long Distance, Inc.                           |                 |                 |                 |                 |                  |                  |                  | 241              |
| Broadwing Companies 12/                            |                 |                 |                 |                 |                  |                  |                  |                  |
| Broadwing Communications Services, Inc.            |                 |                 |                 |                 | 258              | 724              | 453              | 574              |
| Broadwing Telecommunications, Inc.                 |                 |                 |                 |                 |                  |                  | 150              | 202              |
| Cable & Wireless USA, Inc.                         | 557             | 654             | 700             | 919             | 1,066            | 953              | 913              | 770              |
| Viatel Companies 13/                               |                 |                 |                 |                 |                  |                  |                  |                  |
| Viatel, Inc.                                       |                 |                 |                 |                 |                  |                  | 333              | 247              |
| Viatel Services, Inc.                              |                 |                 |                 |                 |                  |                  | 324              | 335              |
| McLeodUSA Telecommunications                       |                 |                 |                 |                 |                  |                  | 232              | 448              |
| Intermedia Communications, Inc.                    |                 |                 |                 |                 |                  | 380              | 516              | 444              |
| Talk.com Holding Corp.                             |                 |                 | 180             | 232             | 305              | 426              | 398              | 428              |
| Williams Communications, Inc.                      |                 |                 |                 |                 | 227              | 126              | 184              | 413              |
| RSL Companies 14/                                  |                 |                 |                 |                 |                  |                  |                  |                  |
| RSL Communications, Ltd.                           |                 |                 |                 |                 | 192              |                  |                  |                  |
| RSL COM USA, Inc.                                  |                 |                 |                 |                 |                  | 171              | 270              | 362              |
| RSL COM Primecall, Inc.                            |                 |                 |                 |                 |                  | 130              | 160              |                  |
| Westinghouse Communications                        |                 |                 |                 |                 |                  | 127              |                  |                  |
| Primus Companies 15/                               |                 |                 |                 |                 |                  |                  |                  |                  |
| Primus Telecommunications, Inc.                    |                 |                 |                 |                 |                  | 176              | 240              | 338              |
| Telegroup, Inc.                                    |                 |                 | 129             | 213             | 337              | 384              |                  |                  |
| Trescom International, Inc.                        |                 |                 |                 | 140             | 158              |                  |                  |                  |
| Pacific Gateway Exchange 16/                       |                 |                 |                 | 162             | 299              | 466              | 680              | 298              |
| Business Telecom, Inc. 17/                         |                 |                 | 115             | 149             | 195              | 212              | 260              | 271              |
| ITC^Deltacom Communications, Inc.                  |                 |                 |                 |                 |                  | 122              | 172              | 270              |
| NOSVA Limited Partnership                          |                 |                 |                 |                 |                  |                  | 191              | 258              |
| Network Plus, Inc.                                 |                 |                 |                 |                 |                  |                  | 153              | 236              |
| Startec Global Operating Company                   |                 |                 |                 |                 |                  | 160              | 261              | 215              |
| General Communication, Inc.                        | 92              | 106             | 120             | 143             | 158              | 175              | 184              | 211              |
| Evercom Systems, Inc.                              |                 |                 |                 |                 |                  |                  | 205              | 206              |
| SNET America, Inc.                                 |                 |                 |                 |                 | 142              | 162              | 186              | 189              |
| Americatel Corporation                             |                 |                 |                 |                 |                  |                  | 129              | 188              |
| Lightyear Communications, Inc.                     |                 |                 |                 |                 |                  | 180              | 189              | 176              |
| ALLTEL Communications, Inc.                        |                 |                 |                 |                 |                  |                  | 120              | 175              |
| New Global Telecom, Inc.                           |                 |                 |                 |                 |                  |                  | 134              | 151              |
| Electric Lightwave                                 |                 |                 |                 |                 |                  |                  |                  | 145              |
| Touch America Services, Inc.                       |                 |                 |                 |                 |                  |                  |                  | 140              |
| Covista Communications                             |                 |                 |                 |                 | 123              | 137              | 140              | 134              |
| Working Assets Funding Service, Inc.               |                 |                 |                 |                 |                  | 131              | 140              | 132              |
| Norlight Telecommunications                        |                 |                 |                 |                 |                  |                  |                  | 119              |
| Others 18/   | 4,459           | 5,445           | 5,813           | 6,553           | 8,920            | 9,453            | 8,781            | 8,393            |
| <b>Total Long Distance Carriers</b>                | <b>61,533</b>   | <b>67,351</b>   | <b>74,143</b>   | <b>82,113</b>   | <b>90,028</b>    | <b>94,396</b>    | <b>98,788</b>    | <b>100,247</b>   |
| Bell Operating Companies                           | 9,849           | 9,527           | 8,189           | 7,950           | 7,138            | 6,857            | 6,182            | 5,865            |
| Other Incumbent Local Telephone Cos. 18/           | 3,908           | 3,848           | 3,143           | 3,298           | 3,077            | 2,572            | 1,864            | 734              |
| CAPs, CLECs, & Other Local Telephone Cos. 18/      |                 |                 |                 |                 | 550              | 1,230            | 1,412            | 1,335            |
| <b>Total Local Exchange Carriers</b>               | <b>13,757</b>   | <b>13,375</b>   | <b>11,332</b>   | <b>11,248</b>   | <b>10,765</b>    | <b>10,659</b>    | <b>9,458</b>     | <b>7,934</b>     |
| <b>Total Toll Service Revenues</b>                 | <b>\$75,290</b> | <b>\$80,726</b> | <b>\$85,475</b> | <b>\$93,361</b> | <b>\$100,793</b> | <b>\$105,055</b> | <b>\$108,246</b> | <b>\$108,181</b> |

\* Includes intrastate, interstate and international toll revenues.  
See notes following Table 10.1.

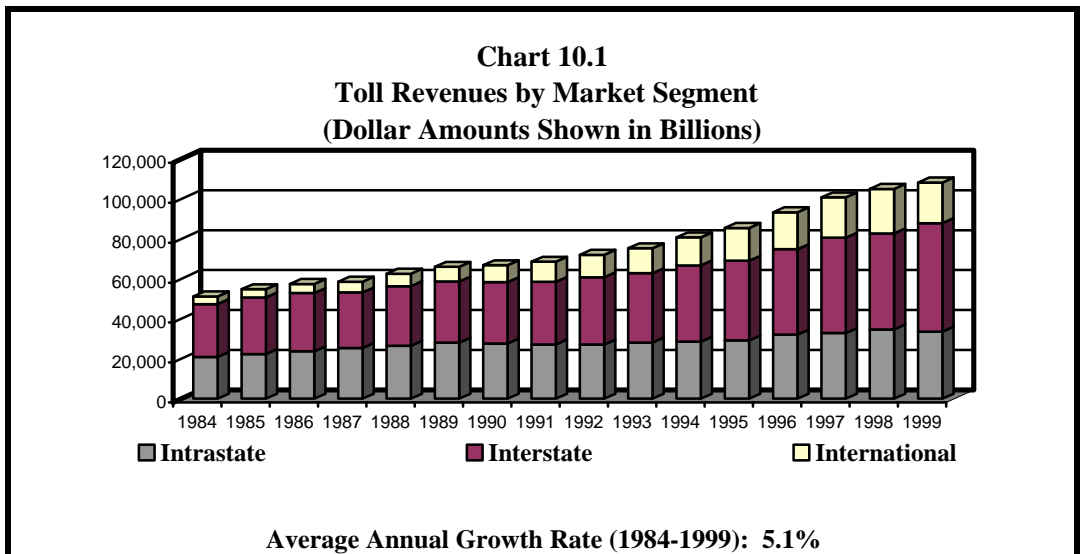
# Year 2000 totals are based on staff estimates.

## Notes for Table 10.1

- 1/ ACC Long Distance Corp. and Teleport Communications Group merged in April of 1998, and the combined company, Teleport Communications Group merged with AT&T Communications, Inc., in July of that year. AT&T Communications acquired Alascom, Inc., August 7, 1995 and began filing a consolidated revenue statement in 1996.
- 2/ MCI WorldCom's revenues were revised for 1998 to exclude enhanced services and to be consistent with revenues reported for 1999.
- 3/ WorldCom, Inc. completed a merger with MCI Communications Corp. in September of 1998 and filed 1998 revenue figures for the combined company, MCI WorldCom, Inc. MCI Communications Corp. and Telecom\*USA merged during 1989 and began reporting consolidated revenues in 1990. Metromedia Communications Corp. and ITT Communications Services, Inc., merged during 1988, but reported 1989 revenue separately. LDDS Communications, Inc., and Advanced Telecommunications Corp. merged in 1992. In 1993, LDDS merged with Metromedia Communications Corp. and Comsystems Network Services. For 1993, only the revenues that were received after the merger are included in LDDS's revenues; those preceding the merger are listed individually. LDDS and Wiltel merged January 5, 1995. In May 1995, LDDS changed its name to WorldCom, Inc. WorldCom acquired MFS Intelenet December 31, 1996.
- 4/ Sprint's revenues were revised for 1998 to exclude enhanced services and to be consistent with revenues reported for 1999.
- 5/ In July 1986, GTE Sprint and US Telecom merged into US Sprint. The information shown for GTE Sprint and US Telecom for 1986 is for January 1 - June 30. The information shown for Sprint Communications Corp. (then US Sprint) for 1986 is for July 1 - December 31. United Telecommunications, Inc., then majority owner of US Sprint, purchased the remaining interest from GTE in July of 1992. Effective February 16, 1992, the company's name became Sprint Communications Co.
- 6/ LCI International Telecom Corp. and USLD Communications, Inc., merged in December of 1997 and filed separate revenue statements for the year. Qwest Communications Corp. merged with LCI and USLD Communications, Inc., in June of 1998, and each of the three affiliated companies filed a separate revenue statement for 1998.
- 7/ Concert Global Networks USA, LLC is a joint venture of AT&T Corporation and British Telecommunications.
- 8/ Global Crossing Ltd. acquired Frontier Corporation September 28, 1999. In 1994, RCI Long Distance, Inc., changed its name to Frontier Corporation.
- 9/ Bell Canada Enterprise (BCE) acquired Teleglobe, Inc. on November 1, 2000. eMeritus Communications was formerly known as Telco Business Solutions, Inc. (previously Telco Holdings, Inc.) Teleglobe USA, Inc., merged with Excel Telecommunications, Inc., and its affiliate merged with Excel Telecommunications, Inc., and its affiliate in November of 1998. Excel Telecommunications acquired Telco Holdings in October of 1997.
- 10/ World Access, Inc. acquired WorldxChange Communications December 19, 2000. FaciliCom merged into World Access, Inc. on December 7, 1999. World Access and five of its subsidiaries, including WorldxChange and FaciliCom, filed Chapter 11 bankruptcy proceedings in Illinois on April 24, 2001.
- 11/ Star Telecommunications' s revenues for 1996 - 1998 have been prorated to reflect the decrease in revised revenues reported for 1999. Star filed Chapter 11 bankruptcy proceedings in California on March 13, 2001.
- 12/ Cincinnati Bell Inc., merged with IXC Communications, Inc., on November 9, 1999 and soon began doing business as Broadwing, Inc.
- 13/ Viatel, Inc. filed Chapter 11 bankruptcy proceedings in Delaware on May 2, 2001. They discontinued offering service in the United States at that time. Revenues for year 2000 are from their Form 499-A filings.
- 14/ RSL COM USA bought Westinghouse Communications in August 1998. RSL COM USA filed Chapter 11 bankruptcy proceedings in New York on March 16, 2001.
- 15/ Primus Telecommunications, Inc. acquired TresCom International, Inc., in 1998.
- 16/ Pacific Gateway Exchange filed Chapter 11 bankruptcy proceedings in California on December 29, 2001. Revenues are for year ended December 31, 2000 and are from their Form 8-K filed May 30, 2001.
- 17/ Data for 1996 taken from the Annual Report to the Colorado Public Utilities Commission from telecommunications carriers regulated pursuant to §40-15-301 C.R.S.
- 18/ Estimated by FCC staff.

**Table 10.2**  
**Intrastate, Interstate, and International Toll Revenues**  
**(Dollar Amounts Shown in Millions)**

| Year | Toll Revenues |            |               | Total Toll Revenues | As Percentage of Total Toll Revenues |            |               |
|------|---------------|------------|---------------|---------------------|--------------------------------------|------------|---------------|
|      | Domestic      |            | International |                     | Domestic                             |            |               |
|      | Intrastate    | Interstate |               |                     | Intrastate                           | Interstate | International |
| 1984 | \$20,872      | \$26,490   | \$3,794       | \$51,156            | 40.8 %                               | 51.8 %     | 7.4 %         |
| 1985 | 22,310        | 28,387     | 4,119         | 54,815              | 40.7                                 | 51.8       | 7.5           |
| 1986 | 23,734        | 29,123     | 4,611         | 57,468              | 41.3                                 | 50.7       | 8.0           |
| 1987 | 25,339        | 27,844     | 5,336         | 58,519              | 43.3                                 | 47.6       | 9.1           |
| 1988 | 26,542        | 29,724     | 6,334         | 62,600              | 42.4                                 | 47.5       | 10.1          |
| 1989 | 28,060        | 30,585     | 7,379         | 66,024              | 42.5                                 | 46.3       | 11.2          |
| 1990 | 27,652        | 30,676     | 8,464         | 66,792              | 41.4                                 | 45.9       | 12.7          |
| 1991 | 27,149        | 31,331     | 10,078        | 68,558              | 39.6                                 | 45.7       | 14.7          |
| 1992 | 27,066        | 33,719     | 11,199        | 71,983              | 37.6                                 | 46.8       | 15.6          |
| 1993 | 28,158        | 34,661     | 12,470        | 75,290              | 37.4                                 | 46.0       | 16.6          |
| 1994 | 28,496        | 38,262     | 13,968        | 80,726              | 35.3                                 | 47.4       | 17.3          |
| 1995 | 29,147        | 39,903     | 16,425        | 85,475              | 34.1                                 | 46.7       | 19.2          |
| 1996 | 32,023        | 42,823     | 18,515        | 93,361              | 34.3                                 | 45.9       | 19.8          |
| 1997 | 32,859        | 47,716     | 20,218        | 100,793             | 32.6                                 | 47.3       | 20.1          |
| 1998 | 34,699        | 48,100     | 22,256        | 105,055             | 33.0                                 | 45.8       | 21.2          |
| 1999 | 33,600        | 54,306     | 20,340        | 108,246             | 31.0                                 | 50.4       | 18.6          |



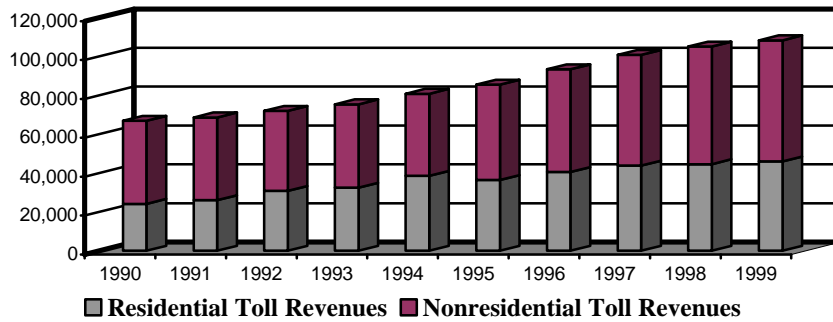


**Table 10.3**  
**Residential and Nonresidential Toll Revenues**  
**(Dollar Amounts Shown in Millions)**

| Year | Toll Revenues |                | Total Toll Revenues | As Percentage of Total Toll Revenues |                |
|------|---------------|----------------|---------------------|--------------------------------------|----------------|
|      | Residential   | Nonresidential |                     | Residential                          | Nonresidential |
| 1990 | \$24,089      | \$42,703       | \$66,792            | 36.1 %                               | 63.9 %         |
| 1991 | 26,028        | 42,530         | 68,558              | 38.0                                 | 62.0           |
| 1992 | 30,816        | 41,167         | 71,983              | 42.8                                 | 57.2           |
| 1993 | 32,408        | 42,882         | 75,290              | 43.0                                 | 57.0           |
| 1994 | 38,526        | 42,200         | 80,726              | 47.7                                 | 52.3           |
| 1995 | 36,361        | 49,114         | 85,475              | 42.5                                 | 57.5           |
| 1996 | 40,461        | 52,900         | 93,361              | 43.3                                 | 56.7           |
| 1997 | 43,754        | 57,039         | 100,793             | 43.4                                 | 56.6           |
| 1998 | 44,543        | 60,512         | 105,055             | 42.4                                 | 57.6           |
| 1999 | 45,896        | 62,350         | 108,246             | 42.4                                 | 57.6           |

1/ 1999 residential/nonresidential breakdown projected from 1998 data.

**Chart 10.2**  
**Residential and Nonresidential Toll Revenues**  
**(Dollar Amounts Shown in Billions)**



**Residential Average Annual Growth Rate (1990-1999): 7.4%**  
**Nonresidential Average Annual Growth Rate (1990-1999): 3.9%**

**Table 10.4  
Number of Toll Carriers**

|  | TRS Data  |           |           |           | TRS & USF Data |           | Form 499-A<br>Data |
|--|-----------|-----------|-----------|-----------|----------------|-----------|--------------------|
|  | 1993      | 1994      | 1995      | 1996      | 1997           | 1998      | 1999               |
| <b>Carriers That Provide Toll Service</b>  |           |           |           |           |                |           |                    |
| Toll Carriers  |           |           |           |           |                |           |                    |
| Interexchange Carriers (IXCs)  | 83        | 97        | 130       | 149       | 151            | 171       | 204                |
| Other Toll Carriers  |           |           |           |           |                |           |                    |
| Operator Service Providers (OSPs)  | 35        | 29        | 25        | 27        | 32             | 24        | 21                 |
| Pre-paid Calling Card Providers  | NA        | NA        | 8         | 16        | 18             | 20        | 21                 |
| Satellite Service Carriers   | NA        | NA        | NA        | 22        | 13             | 13        | 21                 |
| Toll Resellers   | 171       | 206       | 260       | 345       | 340            | 388       | 457                |
| <u>Other Toll Carriers</u>   | <u>32</u> | <u>34</u> | <u>30</u> | <u>28</u> | <u>15</u>      | <u>31</u> | <u>17</u>          |
| Total Toll Carriers  | 321       | 366       | 453       | 587       | 569            | 647       | 741                |
| Fixed Local Service, Payphone, and<br>Mobile Service Carriers Reporting<br>Toll Service Revenues | NA        | NA        | NA        | NA        | 1,537          | 1,740     | 1,870              |
| <b>Total</b>   | NA        | NA        | NA        | NA        | 2,106          | 2,387     | 2,611              |

NA - Not Available.

Note: Some previously published data have been revised.

Sources: Data filed in response to 47 CFR §43.21(c) and data filed on FCC Forms 431, 457, and 499-A worksheets. See also: Industry Analysis Division, *Telecommunications Industry Revenues*, and *Carrier Locator: Interstate Service Providers*.

**Table 10.5**  
**Number of Carrier Identification Codes (CICs)**  
**Assigned by**  
**North American Numbering Plan Administrator**

| Year | Quarter        | Number of<br>CICs<br>Assigned | Year | Quarter        | Number of<br>CICs<br>Assigned |
|------|----------------|-------------------------------|------|----------------|-------------------------------|
| 1982 | First Quarter  | 11                            | 1988 | First Quarter  | 602                           |
|      | Second Quarter | 13                            |      | Second Quarter | 621                           |
|      | Third Quarter  | 13                            |      | Third Quarter  | 601                           |
|      | Fourth Quarter | 11                            |      | Fourth Quarter | 639                           |
| 1983 | First Quarter  | 15                            | 1989 | First Quarter  | 685                           |
|      | Second Quarter | 25                            |      | Second Quarter | 714                           |
|      | Third Quarter  | 33                            |      | Third Quarter  | 730                           |
|      | Fourth Quarter | 42                            |      | Fourth Quarter | 747                           |
| 1984 | First Quarter  | 54                            | 1990 | First Quarter  | 774                           |
|      | Second Quarter | 86 1/                         |      | Second Quarter | 794                           |
|      | Third Quarter  | 121                           |      | Third Quarter  | 817                           |
|      | Fourth Quarter | 155                           |      | Fourth Quarter | 791                           |
| 1985 | First Quarter  | 182                           | 1991 | First Quarter  | 745                           |
|      | Second Quarter | 212                           |      | Second Quarter | 766                           |
|      | Third Quarter  | 236                           |      | Third Quarter  | 783                           |
|      | Fourth Quarter | 256                           |      | Fourth Quarter | 807                           |
| 1986 | First Quarter  | 276                           | 1992 | First Quarter  | 786                           |
|      | Second Quarter | 331                           |      | Second Quarter | 831                           |
|      | Third Quarter  | 361                           |      | Third Quarter  | 840                           |
|      | Fourth Quarter | 413                           |      | Fourth Quarter | 886                           |
| 1987 | First Quarter  | 444                           |      |                |                               |
|      | Second Quarter | 495                           |      |                |                               |
|      | Third Quarter  | 530                           |      |                |                               |
|      | Fourth Quarter | 573                           |      |                |                               |

| Year | Quarter        | FGB    | FGD    |
|------|----------------|--------|--------|
| 1993 | First Quarter  | 694 2/ | 709    |
|      | Second Quarter | 738    | 746    |
|      | Third Quarter  | 739    | 760    |
|      | Fourth Quarter | 753    | 796    |
| 1994 | First Quarter  | 781    | 815    |
|      | Second Quarter | 795    | 845    |
|      | Third Quarter  | 805    | 899 3/ |
|      | Fourth Quarter | 819    | 947    |
| 1995 | First Quarter  | 829    | 1,016  |
|      | Second Quarter | 832    | 1,082  |
|      | Third Quarter  | 843    | 1,146  |
|      | Fourth Quarter | 852    | 1,209  |
| 1996 | First Quarter  | 865    | 1,253  |
|      | Second Quarter | 876    | 1,300  |
|      | Third Quarter  | 875    | 1,315  |
|      | Fourth Quarter | 878    | 1,337  |
| 1997 | First Quarter  | 882    | 1,395  |
|      | Second Quarter | 896    | 1,427  |
|      | Third Quarter  | 908    | 1,481  |
|      | Fourth Quarter | 909    | 1,538  |
| 1998 | First Quarter  | 943    | 1,557  |
|      | Second Quarter | 937    | 1,614  |
|      | Third Quarter  | 943    | 1,671  |
|      | Fourth Quarter | 952    | 1,721  |
| 1999 | First Quarter  | 949    | 1,842  |
|      | Second Quarter | 953    | 1,909  |
|      | Third Quarter  | 954    | 1,980  |
|      | Fourth Quarter | 956    | 2,032  |
| 2000 | First Quarter  | 958    | 2,093  |
|      | Second Quarter | 958    | 2,142  |
|      | Third Quarter  | 937    | 2,181  |
|      | Fourth Quarter | 911    | 2,203  |
| 2001 | First Quarter  | 897    | 2,232  |
|      | Second Quarter | 885    | 2,225  |

1/ Conversion from 2-digit to 3-digit codes.  
2/ Conversion from 3-digit to 4-digit codes.  
3/ Includes both 3-digit and 4-digit codes.

**Table 10.6**

**Alternative Measures of Long Distance Carrier Development**

| <b>Year Month</b> | <b>Carriers with Presubscribed Lines</b> | <b>Carriers Purchasing Equal Access 1/</b> | <b>Firms with Carrier Identification Codes</b> | <b>Firms Purchasing Access</b> | <b>Carriers Filing TRS Worksheets 2/</b> |
|-------------------|--|--|--|--------------------------------|--|
| 1986 March        | *  | 169  | 231  | *                              | *  |
| June              | *  | 183  | 276  | *                              | *  |
| September         | *  | 190  | 302  | 506                            | *  |
| December          | *  | 210  | 334  | 533                            | *  |
| 1987 March        | *  | 211  | 360  | 561                            | *  |
| June              | *  | 213  | 397  | *                              | *  |
| September         | *  | 224  | 421  | *                              | *  |
| December          | 223                                      | 239  | 451  | 540                            | *  |
| 1988 March        | *  | 238  | 471  | 511                            | *  |
| June              | 242                                      | 248  | 489  | 519                            | *  |
| September         | *  | 256  | 464  | 506                            | *  |
| December          | 253                                      | 266  | 493  | 510                            | *  |
| 1989 March        | *  | 274  | 520  | 519                            | *  |
| June              | 276                                      | 287  | 544  | *                              | *  |
| September         | *  | 304  | 560  | *                              | *  |
| December          | 302                                      | 318  | 577  | 514                            | *  |
| 1990 March        | *  | 289  | 594  | 512                            | *  |
| June              | 314                                      | 288  | 611  | 506                            | *  |
| September         | *  | 304  | 636  | 511                            | *  |
| December          | 325                                      | 304  | 601  | 499                            | *  |
| 1991 March        | *  | 306  | 571  | 505                            | *  |
| June              | 355                                      | 327  | 597  | 542                            | *  |
| September         | *  | 337  | 605  | 538                            | *  |
| December          | 388                                      | 351  | 631  | 576                            | *  |
| 1992 March        | *  | 361  | 616  | 595                            | *  |
| June              | 425                                      | 370  | 659  | 577                            | *  |
| September         | *  | 379  | 654  | 587                            | *  |
| December          | 414                                      | 394  | 692  | 599                            | *  |
| 1993 March        | *  | *  | *  | *                              | *  |
| June              | 412                                      | 401  | *  | *                              | *  |
| September         | *  | 401  | *  | *                              | *  |
| December          | 436                                      | 420  | *  | *                              | 321                                      |
| 1994 March        | *  | 433  | *  | *                              | *  |
| June              | 454                                      | 444  | *  | *                              | *  |
| September         | *  | 458  | *  | *                              | *  |
| December          | 511                                      | 465  | *  | *                              | 366                                      |
| 1995 March        | *  | *  | *  | *                              | *  |
| June              | 549                                      | *  | *  | *                              | *  |
| September         | *  | *  | *  | *                              | *  |
| December          | 583                                      | *  | *  | *                              | 453                                      |
| 1996 March        | *  | *  | *  | *                              | *  |
| June              | 582                                      | *  | *  | *                              | *  |
| September         | *  | *  | *  | *                              | *  |
| December          | 621                                      | *  | *  | *                              | 587                                      |
| 1997 December 3/  | *  | *  | *  | *                              | 569                                      |
| 1998 December     | *  | *  | *  | *                              | 647                                      |
| 1999 December     | *  | *  | *  | *                              | 738                                      |

\* Data not available.

1/ Data for the periods prior to March 1990 include a small number of firms purchasing equal access that were not carriers.

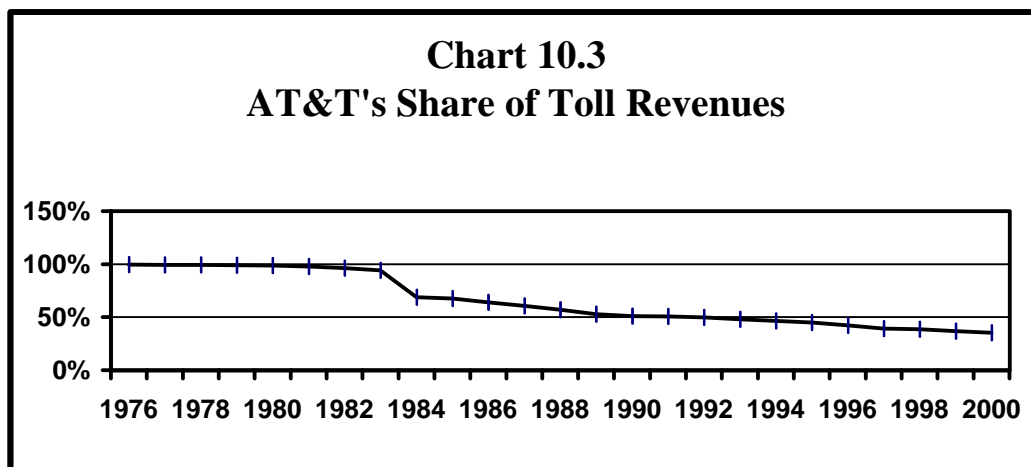
2/ Includes interexchange carriers, operator service providers, other toll carriers, pay card providers, and toll resellers.

3/ The number of carriers with presubscribed lines is no longer available. The only measure available after December 1996 is the number of carriers filing TRS annual worksheets. One company that had filed about fifty separate worksheets in 1996 filed only one consolidated worksheet for 1997. Starting in 1997, the measure used is the number of filers submitting Telecommunications Reporting Worksheets (FCC Form 499-A).

**Table 10.7**  
**Toll Revenues of AT&T, ILECs and Other Toll Service Providers**  
**(Dollar Amounts Shown in Millions)**

| Year | Long Distance Carriers |                              | Local Exchange Carriers           |                                     | Total Industry Toll Revenues |
|------|------------------------|------------------------------|-----------------------------------|-------------------------------------|------------------------------|
|      | AT&T<br>1/ 2/ 3/       | Other Long Distance Carriers | Incumbent Local Exchange Carriers | Competitive Local Exchange Carriers |                              |
| 1976 | \$19,800               | \$67                         |                                   |                                     | \$19,867                     |
| 1977 | 22,429                 | 146                          |                                   |                                     | 22,575                       |
| 1978 | 25,891                 | 188                          |                                   |                                     | 26,079                       |
| 1979 | 29,262                 | 289                          |                                   |                                     | 29,551                       |
| 1980 | 32,855                 | 480                          |                                   |                                     | 33,335                       |
| 1981 | 38,309                 | 871                          |                                   |                                     | 39,180                       |
| 1982 | 42,332                 | 1,587                        |                                   |                                     | 43,919                       |
| 1983 | 44,298                 | 2,672                        |                                   |                                     | 46,970                       |
| 1984 | 35,190                 | 3,565                        | \$12,401                          |                                     | 51,156                       |
| 1985 | 37,041                 | 5,589                        | 12,185                            |                                     | 54,815                       |
| 1986 | 36,782                 | 7,813                        | 12,873                            |                                     | 57,468                       |
| 1987 | 35,481                 | 9,302                        | 13,736                            |                                     | 58,519                       |
| 1988 | 35,679                 | 11,807                       | 15,113                            |                                     | 62,600                       |
| 1989 | 34,827                 | 16,160                       | 14,840                            |                                     | 66,024                       |
| 1990 | 34,139                 | 17,748                       | 14,690                            |                                     | 66,792                       |
| 1991 | 34,722                 | 19,513                       | 14,115                            |                                     | 68,558                       |
| 1992 | 35,828                 | 22,297                       | 13,615                            |                                     | 71,983                       |
| 1993 | 36,051                 | 24,660                       | 13,757                            |                                     | 75,290                       |
| 1994 | 37,495                 | 29,856                       | 13,375                            |                                     | 80,726                       |
| 1995 | 38,394                 | 35,749                       | 11,332                            |                                     | 85,475                       |
| 1996 | 39,382                 | 42,769                       | 11,248                            |                                     | 93,361                       |
| 1997 | 39,592                 | 50,558                       | 10,215                            | \$550                               | 100,793                      |
| 1998 | 40,674                 | 53,722                       | 9,429                             | 1,230                               | 105,055                      |
| 1999 | 39,964                 | 58,824                       | 8,046                             | 1,412                               | 108,246                      |
| 2000 | 38,111                 | 62,136                       | 6,599                             | 1,335                               | 108,181                      |

- 1/ AT&T's revenues include the long distance revenues of Alascom (acquired in 1995) and Teleport Communications Group (including ACC Long Distance Corporation) which merged with AT&T in 1998.
- 2/ Prior to 1984, AT&T and Alascom toll revenues include local exchange carrier toll revenues, which reported separately to the FCC.
- 3/ For year 2000, revenues for AT&T do not include their share of Concert Global Networks USA, Inc. Table 10.1, footnote 7.)



**Table 10.8**  
**Share of Total Toll Service Revenues - Long Distance Carriers Only 1/**

| Year | AT&T    | MCI WorldCom | Sprint | All Other Long Distance Carriers |
|------|---------|--------------|--------|----------------------------------|
| 1984 | 90.1 %  | 4.5 %        | 2.7 %  | 2.6 %                            |
| 1985 | 86.3    | 5.5          | 2.6    | 5.6                              |
| 1986 | 81.9    | 7.6          | 4.3    | 6.3                              |
| 1987 | 78.6    | 8.8          | 5.8    | 6.8                              |
| 1988 | 74.6    | 10.3         | 7.2    | 8.0                              |
| 1989 | 67.5    | 12.3         | 8.4    | 11.8                             |
| 1990 | 65.0    | 14.5         | 9.7    | 10.8                             |
| 1991 | 63.2    | 15.6         | 9.9    | 11.3                             |
| 1992 | 60.8    | 18.1         | 9.7    | 11.5                             |
| 1993 | 58.1    | 19.7         | 10.0   | 12.3                             |
| 1994 | 55.2    | 20.7         | 10.1   | 14.0                             |
| 1995 | 51.8    | 24.6         | 9.8    | 13.8                             |
| 1996 | 47.9    | 25.4         | 9.7    | 17.0                             |
| 1997 | 43.8    | 25.7         | 9.5    | 19.8                             |
| 1998 | 43.1    | 23.5         | 8.5    | 24.9                             |
| 1999 | 40.5    | 23.7         | 9.8    | 26.0                             |
| 2000 | 38.0 2/ | 22.5         | 9.0    | 30.5                             |

1/ Excludes independent local exchange carriers and competitive local exchange carriers.

2/ For year 2000, AT&T's market share does not reflect revenues from their share of Concert Global Networks USA, LLC. (See Table 10.1, footnote 7.)

**Table 10.9**  
**Share of Total Toll Service Revenues - All Long Distance Toll Providers 1/**

| Year | AT&T    | MCI WorldCom | Sprint | All Other Long Distance Carriers | Bell Operating Companies | Other Local Telephone Companies |
|------|---------|--------------|--------|----------------------------------|--------------------------|---------------------------------|
| 1984 | 68.3 %  | 3.4 %        | 2.1 %  | 2.0 %                            | 17.7 %                   | 6.6 %                           |
| 1985 | 67.1    | 4.3          | 2.0    | 4.4                              | 16.5                     | 5.8                             |
| 1986 | 63.5    | 5.9          | 3.3    | 4.9                              | 16.7                     | 5.7                             |
| 1987 | 60.2    | 6.7          | 4.4    | 5.2                              | 17.5                     | 5.9                             |
| 1988 | 56.6    | 7.8          | 5.4    | 6.1                              | 17.0                     | 7.1                             |
| 1989 | 52.3    | 9.5          | 6.5    | 9.1                              | 16.0                     | 6.5                             |
| 1990 | 50.7    | 11.3         | 7.5    | 8.4                              | 15.8                     | 6.2                             |
| 1991 | 50.2    | 12.5         | 7.8    | 9.0                              | 14.7                     | 5.9                             |
| 1992 | 49.3    | 14.6         | 7.9    | 9.3                              | 13.5                     | 5.4                             |
| 1993 | 47.5    | 16.0         | 8.2    | 10.1                             | 13.1                     | 5.2                             |
| 1994 | 46.0    | 17.3         | 8.4    | 11.7                             | 11.8                     | 4.8                             |
| 1995 | 44.9    | 21.4         | 8.5    | 12.0                             | 9.6                      | 3.7                             |
| 1996 | 42.1    | 22.4         | 8.5    | 15.0                             | 8.5                      | 3.5                             |
| 1997 | 39.2    | 22.9         | 8.5    | 18.8                             | 7.1                      | 3.6                             |
| 1998 | 38.7    | 21.1         | 7.6    | 22.4                             | 6.5                      | 3.6                             |
| 1999 | 36.9    | 21.7         | 9.0    | 23.7                             | 5.7                      | 3.0                             |
| 2000 | 35.2 2/ | 20.8         | 8.4    | 28.2                             | 5.4                      | 2.0                             |

1/ Includes independent local exchange carriers and competitive local exchange carriers.

2/ For year 2000, AT&T's market share does not reflect revenues from their share of Concert Global Networks USA, LLC. (See Table 10.1, footnote 7.)

**Table 10.10**  
**Residential Market Share: 1995 - 2000**

|                            | <b>AT&amp;T</b> | <b>WorldCom 1/</b> | <b>Sprint</b> | <b>Other</b> |
|----------------------------|-----------------|--------------------|---------------|--------------|
| <b>Access Lines 2/</b>     |                 |                    |               |              |
| 1995                       | 74.6 %          | 13.0 %             | 4.2 %         | 8.2 %        |
| 1996                       | 69.9            | 14.1               | 5.0           | 11.0         |
| 1997                       | 67.2            | 13.2               | 5.7           | 13.8         |
| 1998                       | 62.6            | 15.1               | 5.7           | 16.6         |
| 1999                       | 62.5            | 16.0               | 6.2           | 15.4         |
| 2000                       | 53.3            | 18.1               | 6.9           | 21.8         |
| <b>Toll Revenues</b>       |                 |                    |               |              |
| 1995                       | 68.5 %          | 14.6 %             | 5.6 %         | 11.3 %       |
| 1996                       | 63.3            | 16.0               | 6.6           | 14.1         |
| 1997                       | 61.1            | 16.6               | 5.6           | 16.7         |
| 1998                       | 58.3            | 18.4               | 5.7           | 17.6         |
| 1999                       | 56.1            | 21.6               | 6.2           | 16.1         |
| 2000                       | 48.4            | 22.2               | 6.8           | 22.6         |
| <b>Direct-Dial Minutes</b> |                 |                    |               |              |
| 1995                       | 69.5 %          | 16.1 %             | 5.8 %         | 8.6 %        |
| 1996                       | 62.5            | 15.9               | 7.1           | 14.5         |
| 1997                       | 62.4            | 14.9               | 6.5           | 16.2         |
| 1998                       | 58.4            | 17.0               | 6.5           | 18.1         |
| 1999                       | 53.2            | 20.9               | 6.6           | 19.3         |
| 2000                       | 44.7            | 21.3               | 7.3           | 26.6         |

Note: Market shares for past years have been revised to take into account mergers and acquisitions and changes in methodology.

1/ In 1995 for MCI only. In 1996, includes MCI and LDDS.

2/ In 1995, 1996, 1999 and 2000, TNS Telcoms defined the household's primary long distance carrier. In 1997, a household's primary long distance carrier was determined based on calls made through long distance carriers, and in 1998, a household's primary long distance carrier was determined based on interLATA calls.

Source: Calculated by IAD staff with data provided by TNS Telecoms (formerly PNR and Associates), *Telecoms Market Monitor*TM.

**Table 10.11**  
**Market Shares of Residential Direct Dial-Minutes by State: 2000 1/**

|                      | AT&T   | WorldCom | Sprint | Other  | Minutes 2/ |
|----------------------|--------|----------|--------|--------|------------|
| Alabama              | 55.5 % | 22.6 %   | 3.3 %  | 18.5 % | 37,875     |
| Arizona              | 45.3   | 28.3     | 6.6    | 19.8   | 63,686     |
| Arkansas             | 41.7   | 18.8     | 5.6    | 33.9   | 26,107     |
| California           | 42.6   | 21.4     | 6.7    | 29.4   | 245,219    |
| Colorado             | 40.5   | 22.3     | 3.4    | 33.8   | 44,148     |
| Connecticut          | 29.1   | 8.5      | 3.8    | 58.6   | 16,536     |
| Delaware             | 26.1   | 27.1     | 8.2    | 38.6   | 5,076      |
| District of Columbia | 25.5   | 50.8     | 13.2   | 10.6   | 5,488      |
| Florida              | 49.4   | 21.5     | 9.1    | 20.0   | 223,503    |
| Georgia              | 48.7   | 29.3     | 3.3    | 18.8   | 62,360     |
| Idaho                | 35.1   | 19.9     | 6.7    | 38.3   | 17,348     |
| Illinois             | 46.3   | 22.0     | 6.4    | 25.3   | 102,295    |
| Indiana              | 51.9   | 17.6     | 7.2    | 23.3   | 54,944     |
| Iowa                 | 40.7   | 25.0     | 4.5    | 29.8   | 34,979     |
| Kansas               | 34.1   | 12.5     | 19.2   | 34.1   | 19,707     |
| Kentucky             | 49.5   | 15.5     | 7.9    | 27.1   | 35,217     |
| Louisiana            | 49.2   | 16.4     | 5.1    | 29.4   | 34,739     |
| Maine                | 43.5   | 22.0     | 4.2    | 30.3   | 5,812      |
| Maryland             | 39.6   | 32.3     | 5.8    | 22.3   | 62,912     |
| Massachusetts        | 57.4   | 20.3     | 10.1   | 12.1   | 25,218     |
| Michigan             | 51.8   | 15.4     | 9.3    | 23.6   | 89,987     |
| Minnesota            | 46.1   | 23.7     | 7.8    | 22.4   | 56,207     |
| Mississippi          | 59.0   | 25.3     | 2.7    | 13.0   | 22,046     |
| Missouri             | 46.5   | 11.2     | 12.4   | 29.9   | 26,396     |
| Montana              | 44.0   | 11.3     | 5.0    | 39.7   | 13,359     |
| Nebraska             | 41.7   | 24.8     | 8.9    | 24.6   | 18,079     |
| Nevada               | 37.2   | 20.4     | 11.9   | 30.4   | 25,971     |
| New Hampshire        | 47.1   | 21.1     | 13.3   | 18.6   | 8,065      |
| New Jersey           | 55.5   | 21.1     | 6.6    | 16.8   | 70,028     |
| New Mexico           | 40.7   | 25.9     | 5.2    | 28.2   | 15,963     |
| New York             | 38.2   | 23.8     | 5.8    | 32.1   | 153,660    |
| North Carolina       | 53.1   | 16.6     | 11.3   | 19.0   | 74,305     |
| North Dakota         | 19.7   | 30.4     | 6.8    | 43.1   | 11,491     |
| Ohio                 | 44.7   | 17.6     | 8.9    | 28.8   | 111,411    |
| Oklahoma             | 42.2   | 17.1     | 5.2    | 35.5   | 26,516     |
| Oregon               | 48.8   | 18.0     | 1.3    | 31.9   | 41,791     |
| Pennsylvania         | 40.6   | 25.5     | 6.4    | 27.5   | 109,935    |
| Rhode Island         | 38.8   | 16.8     | 21.6   | 22.9   | 5,474      |
| South Carolina       | 39.7   | 18.5     | 9.9    | 32.0   | 43,129     |
| South Dakota         | 40.9   | 17.0     | 3.0    | 39.1   | 6,914      |
| Tennessee            | 49.1   | 20.5     | 7.4    | 23.0   | 55,678     |
| Texas                | 33.7   | 18.5     | 10.0   | 37.7   | 126,653    |
| Utah                 | 58.3   | 17.4     | 4.1    | 20.2   | 14,197     |
| Vermont              | 47.5   | 21.8     | 2.6    | 28.1   | 5,958      |
| Virginia             | 41.1   | 24.1     | 9.7    | 25.0   | 82,380     |
| Washington           | 43.1   | 20.9     | 7.3    | 28.6   | 54,701     |
| West Virginia        | 57.5   | 23.9     | 0.4    | 18.1   | 16,295     |
| Wisconsin            | 44.3   | 20.7     | 6.2    | 28.9   | 85,598     |
| Wyoming              | 55.4   | 17.9     | 5.1    | 21.6   | 9,493      |
| Total                | 44.7   | 21.3     | 7.3    | 26.6   | 2,504,849  |

1/ Based on interLATA toll calls.

2/ Total minutes of direct-dial toll calling in the Bill Harvesting study. Caution should be used in interpreting market shares for states with few minutes, where sample sizes are generally small.

Source: Calculated by IAD staff with data provided by TNS Telecoms (formerly PNR and Associates), *Telecoms Market Monitor*™.



**Table 10.12**  
**BOC Applications to Provide**  
**In-Region InterLATA Service \***  
**(Section 271 Applications)**

| <b>State</b>         | <b>Resolution</b> | <b>Date Application Filed</b> | <b>Date Application Resolved</b> |
|----------------------|-------------------|-------------------------------|----------------------------------|
| <b>Connecticut</b>   | <b>Approved</b>   | <b>04/23/01</b>               | <b>07/20/01</b>                  |
| <b>Kansas</b>        | <b>Approved</b>   | <b>10/26/00</b>               | <b>01/22/01</b>                  |
| Louisiana            | Denied            | 11/06/97                      | 02/04/98                         |
| Louisiana            | Denied            | 07/09/98                      | 10/13/98                         |
| Massachusetts        | Withdrawn         | 09/22/00                      | 12/18/00                         |
| <b>Massachusetts</b> | <b>Approved</b>   | <b>01/16/01</b>               | <b>04/16/01</b>                  |
| Michigan             | Withdrawn         | 01/02/97                      | 02/11/97                         |
| Michigan             | Denied            | 05/21/97                      | 08/19/97                         |
| Missouri             | Withdrawn         | 04/04/01                      | 06/07/01                         |
| <b>New York</b>      | <b>Approved</b>   | <b>09/29/99</b>               | <b>12/22/99</b>                  |
| Oklahoma             | Denied            | 04/11/97                      | 06/26/97                         |
| <b>Oklahoma</b>      | <b>Approved</b>   | <b>10/26/00</b>               | <b>01/22/01</b>                  |
| <i>Pennsylvania</i>  | <i>Pending</i>    | <i>06/21/01</i>               | <i>1/</i>                        |
| South Carolina       | Denied            | 09/30/97                      | 12/24/97                         |
| Texas                | Withdrawn         | 01/10/00                      | 04/05/00                         |
| <b>Texas</b>         | <b>Approved</b>   | <b>04/05/00</b>               | <b>06/30/00</b>                  |

\* As of August 17, 2001.

1/ Statutory deadline for Commission action is September 19, 2001.

# 11 Minutes

## 1. Dial Equipment Minutes

As in the case of telephone lines, there are several alternative measures of calling volumes. Most subscribers purchase service with unlimited local calling. As a result, most calls are not metered and estimates of total calling are subject to wide margins of error. Periodic studies are used within the telephone industry to estimate the number of calls and calling minutes for a variety of purposes. For example, periodic studies of dial equipment minutes (DEMs) are used to estimate the proportion of calling that is interstate and to allocate costs between interstate and intrastate services.

DEMs, which are shown in Table 11.1, are measured as calls that enter and leave telephone switches; therefore, two DEMs are counted for every conversation minute. (Individual company and state data can be found in our *Monitoring Report* on the **FCC-State Link** web page.) Until recently, the volume of local calling grew at approximately the same rate as the number of local telephone lines. In contrast, the volume of long distance calling surged as prices fell. As a result, a greater portion of calls are long distance. Intrastate toll minutes increased from 8% of all minutes in 1980 to 10% in 1999. During that same period, interstate calling minutes increased from 8% of the total to 13%.

As shown in Table 11.2, the average telephone line is used primarily for local calling and is used about an hour per day for all calls (local, intrastate toll, and interstate toll). The level of local calling has remained relatively constant for a long period of time. In recent years, however, it has begun to surge due to the introduction of facsimile machines, computer modems, and other devices that use telephone lines. Increases in local and long distance calling have caused the total usage per line to increase from 46 minutes per day in 1980 to 65 minutes per day in 1999.

## 2. Switched Access Minutes

An alternative measure of interstate calling became available in 1984. Switched access minutes are those minutes transmitted by long distance carriers that also use the distribution networks of local telephone companies. The measure includes minutes associated with ordinary long distance calls and the "open end" of WATS and 800-like calls. It excludes calls made on private telecommunications systems, on leased lines, and minutes on the "closed end" of WATS and 800-like calls. On ordinary long distance calls, minutes are counted both where the call originates and where the call terminates.

Table 11.3 shows the total number of interstate switched access minutes handled by all long distance carriers. The number of minutes has grown steadily since mid-1984, stemming from a combination of overall economic growth and price reductions. Premium minutes have grown rapidly, reflecting both strong underlying traffic growth and the conversion of offices to equal access. Non-premium minutes (principally minutes handled by AT&T's competitors in areas where equal access has not yet been provided) continue to decline as the process of conversion to equal access nears completion.

Telephone industry traffic experts often argue that dial equipment minutes represent the best

available information on the proportions of different types of calls, while access minutes are the most accurate available data on the volume of interstate calling. However, it is not clear why reported changes in access minutes are not entirely consistent with reported changes in dial equipment minutes.

**Table 11.1**  
**Dial Equipment Minutes**  
**(Minutes Shown in Billions)**

|                                 | <b>Local</b> | <b>Intrastate<br/>Toll</b> | <b>Interstate<br/>Toll</b> | <b>Total</b> |
|---------------------------------|--------------|----------------------------|----------------------------|--------------|
| 1980                            | 1,458        | 141                        | 133                        | 1,733        |
| 1981                            | 1,492        | 151                        | 144                        | 1,787        |
| 1982                            | 1,540        | 158                        | 154                        | 1,853        |
| 1983                            | 1,587        | 166                        | 169                        | 1,923        |
| 1984                            | 1,639        | 198                        | 208                        | 2,045        |
| 1985                            | 1,673        | 222                        | 250                        | 2,145        |
| 1986                            | 1,699        | 237                        | 270                        | 2,207        |
| 1987                            | 1,713        | 253                        | 295                        | 2,261        |
| 1988                            | 1,795        | 269                        | 321                        | 2,384        |
| 1989                            | 1,829        | 286                        | 344                        | 2,459        |
| 1990                            | 1,846        | 298                        | 353                        | 2,497        |
| 1991                            | 1,859        | 302                        | 366                        | 2,527        |
| 1992                            | 1,926        | 311                        | 381                        | 2,618        |
| 1993                            | 2,027        | 316                        | 396                        | 2,739        |
| 1994                            | 2,126        | 327                        | 420                        | 2,873        |
| 1995                            | 2,224        | 346                        | 454                        | 3,025        |
| 1996                            | 2,389        | 370                        | 486                        | 3,245        |
| 1997                            | 2,683        | 404                        | 525                        | 3,611        |
| 1998                            | 2,982        | 420                        | 553                        | 3,955        |
| 1999                            | 3,379        | 451                        | 585                        | 4,414        |
| <b>Increase Over Prior Year</b> |              |                            |                            |              |
| 1981                            | 2 %          | 7 %                        | 8 %                        | 3 %          |
| 1982                            | 3            | 5                          | 7                          | 4            |
| 1983                            | 3            | 5                          | 10                         | 4            |
| 1984                            | 3            | 19                         | 23                         | 6            |
| 1985                            | 2            | 12                         | 20                         | 5            |
| 1986                            | 2            | 7                          | 8                          | 3            |
| 1987                            | 1            | 7                          | 9                          | 2            |
| 1988                            | 5            | 6                          | 9                          | 5            |
| 1989                            | 2            | 6                          | 7                          | 3            |
| 1990                            | 1            | 4                          | 3                          | 2            |
| 1991                            | 1            | 1                          | 4                          | 1            |
| 1992                            | 4            | 3                          | 4                          | 4            |
| 1993                            | 5            | 2                          | 4                          | 5            |
| 1994                            | 5            | 3                          | 6                          | 5            |
| 1995                            | 5            | 6                          | 8                          | 5            |
| 1996                            | 7            | 7                          | 7                          | 7            |
| 1997                            | 12           | 9                          | 8                          | 11           |
| 1998                            | 11           | 4                          | 5                          | 10           |
| 1999                            | 13           | 7                          | 6                          | 12           |
| <b>Percent Distribution</b>     |              |                            |                            |              |
| 1980                            | 84 %         | 8 %                        | 8 %                        | 100 %        |
| 1981                            | 83           | 8                          | 8                          | 100          |
| 1982                            | 83           | 9                          | 8                          | 100          |
| 1983                            | 83           | 9                          | 9                          | 100          |
| 1984                            | 80           | 10                         | 10                         | 100          |
| 1985                            | 78           | 10                         | 12                         | 100          |
| 1986                            | 77           | 11                         | 12                         | 100          |
| 1987                            | 76           | 11                         | 13                         | 100          |
| 1988                            | 75           | 11                         | 13                         | 100          |
| 1989                            | 74           | 12                         | 14                         | 100          |
| 1990                            | 74           | 12                         | 14                         | 100          |
| 1991                            | 74           | 12                         | 14                         | 100          |
| 1992                            | 74           | 12                         | 15                         | 100          |
| 1993                            | 74           | 12                         | 14                         | 100          |
| 1994                            | 74           | 11                         | 15                         | 100          |
| 1995                            | 74           | 11                         | 15                         | 100          |
| 1996                            | 74           | 11                         | 15                         | 100          |
| 1997                            | 74           | 11                         | 15                         | 100          |
| 1998                            | 75           | 11                         | 14                         | 100          |
| 1999                            | 77           | 10                         | 13                         | 100          |

Source: National Exchange Carrier Association.

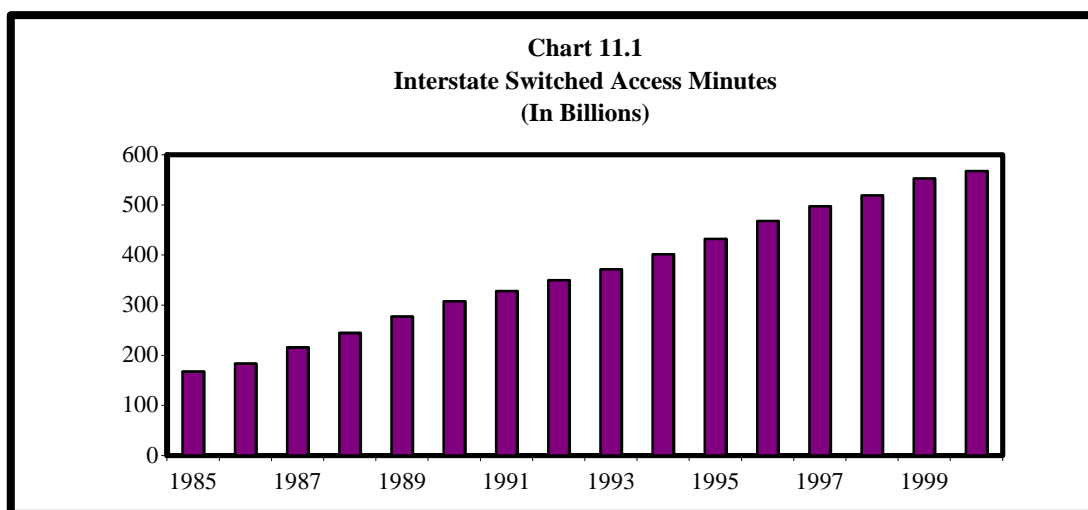
**Table 11.2**  
**Line Usage Per Day**  
**(Dial Equipment Minutes per Local Loop)**

|                                 | Local | Intrastate Toll | Interstate Toll | Total |
|---------------------------------|-------|-----------------|-----------------|-------|
| 1980                            | 39    | 4               | 4               | 46    |
| 1981                            | 39    | 4               | 4               | 46    |
| 1982                            | 39    | 4               | 4               | 47    |
| 1983                            | 39    | 4               | 4               | 48    |
| 1984                            | 40    | 5               | 5               | 50    |
| 1985                            | 40    | 5               | 6               | 51    |
| 1986                            | 39    | 5               | 6               | 51    |
| 1987                            | 38    | 6               | 7               | 50    |
| 1988                            | 39    | 6               | 7               | 51    |
| 1989                            | 38    | 6               | 7               | 51    |
| 1990                            | 37    | 6               | 7               | 50    |
| 1991                            | 37    | 6               | 7               | 50    |
| 1992                            | 37    | 6               | 7               | 50    |
| 1993                            | 37    | 6               | 7               | 51    |
| 1994                            | 38    | 6               | 8               | 51    |
| 1995                            | 38    | 6               | 8               | 52    |
| 1996                            | 39    | 6               | 8               | 53    |
| 1997                            | 42    | 6               | 8               | 57    |
| 1998                            | 45    | 6               | 8               | 60    |
| 1999                            | 50    | 7               | 9               | 65    |
| <b>Increase Over Prior Year</b> |       |                 |                 |       |
| 1981                            | -1 %  | 4 %             | 5 %             | 0 %   |
| 1982                            | 1     | 3               | 5               | 2     |
| 1983                            | 0     | 2               | 7               | 1     |
| 1984                            | 1     | 17              | 21              | 4     |
| 1985                            | -1    | 9               | 17              | 2     |
| 1986                            | 0     | 5               | 6               | 1     |
| 1987                            | -3    | 3               | 5               | -1    |
| 1988                            | 1     | 2               | 5               | 2     |
| 1989                            | -1    | 3               | 4               | 0     |
| 1990                            | -2    | 1               | -1              | -2    |
| 1991                            | -2    | -1              | 1               | -1    |
| 1992                            | 0     | 0               | 1               | 0     |
| 1993                            | 2     | -1              | 1               | 2     |
| 1994                            | 1     | 0               | 3               | 1     |
| 1995                            | 1     | 2               | 4               | 1     |
| 1996                            | 3     | 2               | 2               | 3     |
| 1997                            | 8     | 5               | 4               | 7     |
| 1998                            | 7     | 1               | 2               | 6     |
| 1999                            | 10    | 4               | 3               | 9     |

**Table 11.3**  
**Interstate Switched Access Minutes**  
**(In Billions)**

| Year | Period         | Access Minutes | Year | Period         | Access Minutes | Year | Period         | Access Minutes |
|------|----------------|----------------|------|----------------|----------------|------|----------------|----------------|
| 1984 | Third Quarter  | 37.5           | 1990 | First Quarter  | 74.7           | 1996 | First Quarter  | 115.7          |
|      | Fourth Quarter | 39.6           |      | Second Quarter | 75.8           |      | Second Quarter | 114.7          |
|      |                |                |      | Third Quarter  | 77.9           |      | Third Quarter  | 117.5          |
|      |                |                |      | Fourth Quarter | 79.1           |      | Fourth Quarter | 120.2          |
|      |                |                |      | Total 1990     | 307.4          |      | Total 1996     | 468.1          |
| 1985 | First Quarter  | 39.6           | 1991 | First Quarter  | 79.2           | 1997 | First Quarter  | 122.1          |
|      | Second Quarter | 41.5           |      | Second Quarter | 81.9           |      | Second Quarter | 124.4          |
|      | Third Quarter  | 42.8           |      | Third Quarter  | 82.6           |      | Third Quarter  | 124.9          |
|      | Fourth Quarter | 43.3           |      | Fourth Quarter | 84.4           |      | Fourth Quarter | 125.8          |
|      | Total 1985     | 167.1          |      | Total 1991     | 328.0          |      | Total 1997     | 497.3          |
| 1986 | First Quarter  | 43.0           | 1992 | First Quarter  | 85.6           | 1998 | First Quarter  | 124.0          |
|      | Second Quarter | 44.8           |      | Second Quarter | 86.5           |      | Second Quarter | 131.3          |
|      | Third Quarter  | 46.7           |      | Third Quarter  | 87.9           |      | Third Quarter  | 130.7          |
|      | Fourth Quarter | 48.5           |      | Fourth Quarter | 89.8           |      | Fourth Quarter | 132.8          |
|      | Total 1986     | 183.1          |      | Total 1992     | 349.7          |      | Total 1998     | 518.8          |
| 1987 | First Quarter  | 51.2           | 1993 | First Quarter  | 90.6           | 1999 | First Quarter  | 136.0          |
|      | Second Quarter | 52.5           |      | Second Quarter | 91.2           |      | Second Quarter | 138.2          |
|      | Third Quarter  | 55.0           |      | Third Quarter  | 93.6           |      | Third Quarter  | 138.2          |
|      | Fourth Quarter | 57.0           |      | Fourth Quarter | 95.9           |      | Fourth Quarter | 140.2          |
|      | Total 1987     | 215.7          |      | Total 1993     | 371.2          |      | Total 1999     | 552.7          |
| 1988 | First Quarter  | 59.0           | 1994 | First Quarter  | 98.7           | 2000 | First Quarter  | 142.9          |
|      | Second Quarter | 59.6           |      | Second Quarter | 97.9           |      | Second Quarter | 142.9          |
|      | Third Quarter  | 62.1           |      | Third Quarter  | 101.9          |      | Third Quarter  | 141.3          |
|      | Fourth Quarter | 64.0           |      | Fourth Quarter | 102.9          |      | Fourth Quarter | 140.3          |
|      | Total 1988     | 244.6          |      | Total 1994     | 401.4          |      | Total 2000     | 567.4          |
| 1989 | First Quarter  | 66.2           | 1995 | First Quarter  | 105.6          | 2001 | First Quarter  | 139.6          |
|      | Second Quarter | 68.5           |      | Second Quarter | 106.8          |      |                |                |
|      | Third Quarter  | 69.7           |      | Third Quarter  | 109.0          |      |                |                |
|      | Fourth Quarter | 72.6           |      | Fourth Quarter | 110.6          |      |                |                |
|      | Total 1989     | 277.1          |      | Total 1995     | 431.9          |      |                |                |

Source: FCC Monitoring Report.



## 12 Mobile Wireless Service

The Commission collects data on the number of wireless subscribers per state as part of a recently adopted local competition and broadband data gathering program (FCC Form 477). The new program requires providers of wireless service to file information twice each year for each state in which they have at least 10,000 subscribers. Table 12.1 shows the number of wireless subscribers per state as of December 31, 2000.

The Cellular Telecommunications & Internet Association (CTIA) periodically publishes summary information on the industry; a selection of which is shown in Tables 12.2 and 12.3. CTIA can be found on the Internet at [www.wow-com.com](http://www.wow-com.com).

The wireless industry has grown dramatically. Table 12.2 shows that there were 92,000 subscribers in 1984, as compared with over 109 million subscribers as of December 2000. As seen in Table 12.3, the industry's annual revenues rose from less than a half billion in 1984 to over \$50 billion in 2000. The table also shows that the industry had nearly 185,000 employees as of December 2000, as compared to about 1,000 employees in 1984; and there was a significant drop in the average monthly bill from \$96.83 at the end of 1987 to \$45.27 as of December 2000.





**Table 12.1**  
**Mobile Wireless Telephone Subscribers**  
(As of December 31, 2000)

| State                | Dec 2000<br>Reporting<br>Carriers 1/ | Dec 2000<br>Percent<br>Resold 2/ | Subscribers<br>Dec 1999 | Subscribers<br>June 2000 | Subscribers Dec<br>2000 | Percent Change<br>Dec 1999 -<br>Dec 2000 |
|----------------------|--------------------------------------|----------------------------------|-------------------------|--------------------------|-------------------------|--|
| Alabama              | 9                                    | 1%                               | 1,080,410               | 1,253,084                | 1,386,294               | 28%                                      |
| Alaska               | *                                    | *                                | 165,221                 | 169,892                  | *                       | *  |
| Arizona              | 11                                   | 7                                | 1,125,321               | 1,624,668                | 1,829,695               | 63                                       |
| Arkansas             | 5                                    | 2                                | 719,919                 | 715,467                  | 743,928                 | 3  |
| California           | 10                                   | 5                                | 8,544,941               | 12,283,369               | 12,649,508              | 48                                       |
| Colorado             | 8                                    | 4                                | 1,552,718               | 1,654,989                | 1,856,075               | 20                                       |
| Connecticut          | 6                                    | 7                                | 1,077,089               | 1,136,618                | 1,277,123               | 19                                       |
| Delaware             | 6                                    | 0                                | 270,848                 | 275,219                  | 371,014                 | 37                                       |
| District of Columbia | 6                                    | 10                               | 910,116                 | 333,815                  | 928,962                 | 2  |
| Florida              | 9                                    | 6                                | 5,158,079               | 4,983,478                | 6,369,985               | 23                                       |
| Georgia              | 11                                   | 6                                | 2,538,983               | 2,687,238                | 2,739,000               | 8  |
| Hawaii               | 7                                    | 0                                | 288,425                 | 454,364                  | 524,291                 | 82                                       |
| Idaho                | 4                                    | 23                               | 271,436                 | 296,066                  | 344,564                 | 27                                       |
| Illinois             | 10                                   | 10                               | 3,922,482               | 4,309,660                | 5,143,767               | 31                                       |
| Indiana              | 10                                   | 6                                | 1,318,975               | 1,717,378                | 1,715,074               | 30                                       |
| Iowa                 | 7                                    | 62                               | 774,773                 | 975,629                  | 832,106                 | 7  |
| Kansas               | 10                                   | 4                                | 669,472                 | 724,024                  | 801,293                 | 20                                       |
| Kentucky             | 10                                   | 2                                | 911,700                 | 999,544                  | 1,026,334               | 13                                       |
| Louisiana            | 11                                   | 4                                | 1,227,106               | 1,294,693                | 1,306,457               | 6  |
| Maine                | 5                                    | 32                               | 187,003                 | 283,640                  | 359,786                 | 92                                       |
| Maryland             | 7                                    | 6                                | 1,473,494               | 2,013,058                | 1,894,251               | 29                                       |
| Massachusetts        | 6                                    | 4                                | 1,892,014               | 2,228,169                | 2,649,130               | 40                                       |
| Michigan             | 11                                   | 9                                | 3,512,813               | 3,423,535                | 3,488,826               | - 1                                      |
| Minnesota            | 13                                   | 4                                | 1,550,411               | 1,595,560                | 1,851,430               | 19                                       |
| Mississippi          | 7                                    | 0                                | 673,355                 | 509,038                  | 786,577                 | 17                                       |
| Missouri             | 8                                    | 8                                | 1,855,452               | 1,848,775                | 1,767,411               | - 5                                      |
| Montana              | *                                    | 12                               | *                       | *                        | *                       | *  |
| Nebraska             | 5                                    | 1                                | 576,296                 | 600,885                  | 659,380                 | 14                                       |
| Nevada               | 6                                    | 3                                | 750,335                 | 825,163                  | 684,752                 | - 9                                      |
| New Hampshire        | 8                                    | 35                               | 280,508                 | 309,263                  | 387,264                 | 38                                       |
| New Jersey           | 6                                    | 2                                | 2,289,181               | 2,750,024                | 3,575,130               | 56                                       |
| New Mexico           | 5                                    | 41                               | 363,827                 | 395,111                  | 443,343                 | 22                                       |
| New York             | 7                                    | 11                               | 4,833,816               | 5,016,524                | 5,873,965               | 22                                       |
| North Carolina       | 11                                   | 13                               | 2,536,068               | 2,730,178                | 3,105,811               | 22                                       |
| North Dakota         | *                                    | 2                                | *                       | *                        | *                       | *  |
| Ohio                 | 12                                   | 6                                | 3,237,786               | 3,278,960                | 4,015,476               | 24                                       |
| Oklahoma             | 12                                   | 13                               | 826,637                 | 979,513                  | 1,732,994               | 110                                      |
| Oregon               | 8                                    | 11                               | 914,848                 | 1,082,425                | 1,201,207               | 31                                       |
| Pennsylvania         | 11                                   | 6                                | 2,767,474               | 3,850,372                | 4,031,031               | 46                                       |
| Puerto Rico          | 4                                    | 27                               | *                       | 1,090,005                | 926,448                 | *  |
| Rhode Island         | 6                                    | 39                               | 279,304                 | 313,550                  | 355,889                 | 27                                       |
| South Carolina       | 9                                    | 7                                | 1,137,232               | 1,236,338                | 1,392,586               | 22                                       |
| South Dakota         | *                                    | 3                                | *                       | *                        | *                       | *  |
| Tennessee            | 11                                   | 10                               | 1,529,054               | 1,876,444                | 1,985,851               | 30                                       |
| Texas                | 19                                   | 8                                | 5,792,453               | 6,705,423                | 7,489,180               | 29                                       |
| Utah                 | 8                                    | 5                                | 643,824                 | 692,006                  | 750,244                 | 17                                       |
| Vermont              | *                                    | 13                               | *                       | *                        | *                       | *  |
| Virgin Islands       | 0                                    | NA                               | *                       | 0                        | 0                       | NA                                       |
| Virginia             | 12                                   | 8                                | 1,860,262               | 2,447,687                | 2,450,289               | 32                                       |
| Washington           | 9                                    | 8                                | 1,873,475               | 2,144,767                | 2,286,082               | 22                                       |
| West Virginia        | 7                                    | 23                               | 241,265                 | 347,916                  | 392,384                 | 63                                       |
| Wisconsin            | 11                                   | 43                               | 1,525,818               | 1,342,908                | 1,698,520               | 11                                       |
| Wyoming              | 4                                    | 1                                | 127,634                 | *                        | 165,353                 | *  |
| Nationwide           | 77                                   | 9%                               | 79,696,083              | 90,643,058               | 101,212,054             | 27%                                      |

NA - Not Available.

\* Data withheld to maintain firm confidentiality.

1/ Carriers with under 10,000 subscribers in a state were not required to report.

2/ Percentage of mobile wireless subscribers receiving their service from a mobile wireless reseller.

Source: Industry Analysis Division, *Local Telephone Competition: Status as of December 31, 2000.* (December 2000 data revised.)

**Table 12.2**  
**Wireless Telephone Subscribers**  
**(As Reported by Cellular Telecommunications & Internet Assn.)**

|      |          | Number<br>of<br>Systems | Subscribers |
|------|----------|-------------------------|-------------|
| 1984 | December | 32                      | 91,600      |
| 1985 | June     | 65                      | 203,600     |
|      | December | 102                     | 340,213     |
| 1986 | June     | 129                     | 500,000     |
|      | December | 166                     | 681,825     |
| 1987 | June     | 206                     | 883,778     |
|      | December | 312                     | 1,230,855   |
| 1988 | June     | 420                     | 1,608,697   |
|      | December | 517                     | 2,069,441   |
| 1989 | June     | 559                     | 2,691,793   |
|      | December | 584                     | 3,508,944   |
| 1990 | June     | 592                     | 4,368,686   |
|      | December | 751                     | 5,283,055   |
| 1991 | June     | 1,029                   | 6,390,053   |
|      | December | 1,252                   | 7,557,148   |
| 1992 | June     | 1,483                   | 8,892,535   |
|      | December | 1,506                   | 11,032,753  |
| 1993 | June     | 1,523                   | 13,067,318  |
|      | December | 1,529                   | 16,009,461  |
| 1994 | June     | 1,550                   | 19,283,506  |
|      | December | 1,581                   | 24,134,421  |
| 1995 | June     | 1,581                   | 28,154,415  |
|      | December | 1,627                   | 33,785,661  |
| 1996 | June     | 1,629                   | 38,195,466  |
|      | December | 1,740                   | 44,042,992  |
| 1997 | June     | 2,005                   | 48,705,553  |
|      | December | 2,228                   | 55,312,293  |
| 1998 | June     | 2,300                   | 60,831,431  |
|      | December | 3,073                   | 69,209,321  |
| 1999 | June     | 3,447                   | 76,284,753  |
|      | December | 3,518                   | 86,047,003  |
| 2000 | June     | 2,306 1/                | 97,035,925  |
|      | December | 2,440                   | 109,478,031 |

1/ The drop in the number of systems from December 1999 to June 2000 was due to the reclassification of Nextel's systems from city-by-city to consolidated MSAs and BTAs.

Source: Cellular Telecommunications & Internet Association (CTIA).

**Table 12.3**

**Wireless Telephone Service: Industry Survey Results  
(As Reported by Cellular Telecommunications & Internet Assn.)**

|      |          | Survey Results               |                              | Estimates for Total Industry |                                |                      |
|------|----------|------------------------------|------------------------------|------------------------------|--------------------------------|----------------------|
|      |          | Number of Systems Responding | Percent of Industry Surveyed | Employees                    | Six-Month Revenues (Thousands) | Average Monthly Bill |
| 1984 | December | 32                           | 100.0 %                      | 1,404                        | \$178,085                      |                      |
| 1985 | June     | 65                           | 100.0                        | 1,697                        | 176,231                        |                      |
|      | December | 101                          | 100.0                        | 2,727                        | 306,197                        |                      |
| 1986 | June     | 122                          | 96.0                         | 3,556                        | 360,585                        |                      |
|      | December | 160                          | 95.3                         | 4,334                        | 462,467                        |                      |
| 1987 | June     | 192                          | 88.0                         | 5,656                        | 479,514                        |                      |
|      | December | 297                          | 97.2                         | 7,147                        | 672,005                        | \$96.83              |
| 1988 | June     | 409                          | 99.9                         | 9,154                        | 886,075                        | 95.00                |
|      | December | 496                          | 99.1                         | 11,400                       | 1,073,473                      | 98.02                |
| 1989 | June     | 513                          | 99.1                         | 13,719                       | 1,406,463                      | 85.52                |
|      | December | 546                          | 98.8                         | 15,927                       | 1,934,132                      | 89.30                |
| 1990 | June     | 554                          | 98.8                         | 18,973                       | 2,126,362                      | 83.94                |
|      | December | 663                          | 98.2                         | 21,382                       | 2,422,458                      | 80.90                |
| 1991 | June     | 905                          | 96.4                         | 25,545                       | 2,653,505                      | 74.56                |
|      | December | 1,005                        | 96.5                         | 26,327                       | 3,055,017                      | 72.74                |
| 1992 | June     | 1,129                        | 96.3                         | 30,595                       | 3,633,285                      | 68.51                |
|      | December | 1,189                        | 93.4                         | 34,348                       | 4,189,441                      | 68.68                |
| 1993 | June     | 1,110                        | 92.2                         | 36,501                       | 4,819,259                      | 67.31                |
|      | December | 1,287                        | 92.3                         | 39,775                       | 6,072,906                      | 61.48                |
| 1994 | June     | 1,242                        | 92.7                         | 45,606                       | 6,519,030                      | 58.65                |
|      | December | 1,371                        | 93.2                         | 53,902                       | 7,710,890                      | 56.21                |
| 1995 | June     | 1,330                        | 93.9                         | 60,624                       | 8,740,352                      | 52.42                |
|      | December | 1,392                        | 93.0                         | 68,165                       | 10,331,614                     | 51.00                |
| 1996 | June     | 1,346                        | 92.2                         | 73,365                       | 11,194,247                     | 48.84                |
|      | December | 1,422                        | 92.4                         | 84,161                       | 12,440,724                     | 47.70                |
| 1997 | June     | 1,785                        | 94.9                         | 97,039                       | 13,134,551                     | 43.86                |
|      | December | 2,017                        | 94.9                         | 109,387                      | 14,351,082                     | 42.78                |
| 1998 | June     | 2,026                        | 94.7                         | 113,111                      | 15,286,660                     | 39.88                |
|      | December | 2,869                        | 93.3                         | 134,754                      | 17,846,515                     | 39.43                |
| 1999 | June     | 3,175                        | 95.6                         | 141,929                      | 19,368,304                     | 40.24                |
|      | December | 3,216                        | 93.4                         | 155,817                      | 20,650,185                     | 41.24                |
| 2000 | June     | 1,949 1/                     | 91.8                         | 159,645                      | 24,645,365                     | 45.15                |
|      | December | 2,111                        | 94.7                         | 184,449                      | 27,820,655                     | 45.27                |

1/ The drop in the number of systems from December 1999 to June 2000 was due to the reclassification of Nextel's systems from city-by-city to consolidated MSAs and BTAs.

Source: Cellular Telecommunications & Internet Association (CTIA).

## **13 Price Indices for Telephone Services**

The Bureau of Labor Statistics (BLS) collects a variety of information on telephone service as part of three separate programs -- the Consumer Price Index (CPI), the Producer Price Index (PPI), and the Consumer Expenditure Survey. They can be found on the Internet at <http://stats/bls.gov/blshome.html>. The following material illustrates the range of information available from price indices.

### **1. Long-Term Trends in Price Indices**

A price index for telephone service was first published in 1935. Since that time, telephone prices have tended to increase at a slower pace than most other prices. Table 13.1 shows long-term changes in the consumer price indices for all items, all services, telephone services, each of the seven major categories that currently constitute the overall CPI, and several services that are often characterized as being public utilities.

### **2. Comprehensive Price Indices**

The CPI index of telephone services is based on a market basket intended to represent the telephone-related expenditures of a typical urban household. It includes local, long distance, and cellular services. The annual rate of change is shown in Table 13.2 for the overall CPI (which measures the impact of inflation on consumers) and the CPI for telephone services. In addition, Table 13.2 shows the gross domestic product chain-type price index (which measures inflation throughout the economy) prepared by the Bureau of Economic Analysis.

### **3. Price Indices for Local Service**

The CPI index of local telephone charges is based on a broadly defined market basket that includes: monthly service charges, message unit charges, leased equipment, installation, service enhancements (such as tone dialing and call waiting), taxes, and subscriber line charges. In contrast, the PPI index of monthly residential rates is much more narrowly defined. It is based only on monthly service charges for residential service, optional touch-tone service, and subscriber line charges. It excludes taxes, charges for special services such as call waiting, and all other expenditures. The annual rates of change for these indices of local costs are presented in Table 13.3.

### **4. Price Indices for Long Distance Service**

Price indices are available for intrastate toll and interstate toll services. These series are also presented in Table 13.3.

## **5. Price-Index Limitations**

Price indices are less reliable when industries are changing rapidly. For example, in 1992, long distance carriers began to increase basic rates while greatly expanding their range of discount offerings. The fixed market basket of toll calls measured for the CPI did not fully reflect these discounts. In 1995, BLS made major changes to the PPI telephone series, and there are no data after July 1995 comparable with prior data. Because of these sorts of difficulties, measures of average revenues are sometimes used as alternatives to price indices.

**Table 13.1**  
**Long-Term Changes for Various Price Indices**  
**(Annual Rates of Change)**

|                                 | 1935 - 2000 | 1989 - 2000 |
|---------------------------------|-------------|-------------|
| CPI All Items                   | 3.8 %       | 3.1 %       |
| CPI All Services                | 4.3         | 3.6         |
| CPI Telephone Services 1/       | 1.4         | 0.6         |
| CPI Major Categories:           |             |             |
| - Food & Beverages              | *           | 2.7         |
| - Housing                       | *           | 3.0         |
| - Apparel                       | 2.6         | 0.9         |
| - Transportation                | 3.6         | 3.4         |
| - Medical Care                  | 5.0         | 5.2         |
| - Recreation 2/                 | *           | 1.9         |
| - Other Goods & Services        | *           | 5.9         |
| CPI Public Transportation       | 4.9         | 4.5         |
| CPI Utility Natural Gas Service | 3.5         | 2.8         |
| CPI Electricity                 | 1.7         | 1.0         |
| CPI Sewer & Water Maintenance   | *           | 4.5         |
| CPI Postage                     | 3.9         | 3.5         |

\* Series not established until after 1935.

1/ The CPI telephone service index was revised in December of 1997.

2/ Series not established until 1993. Figure reflects annual change between 1993 and 2000.

Source: Bureau of Labor Statistics.

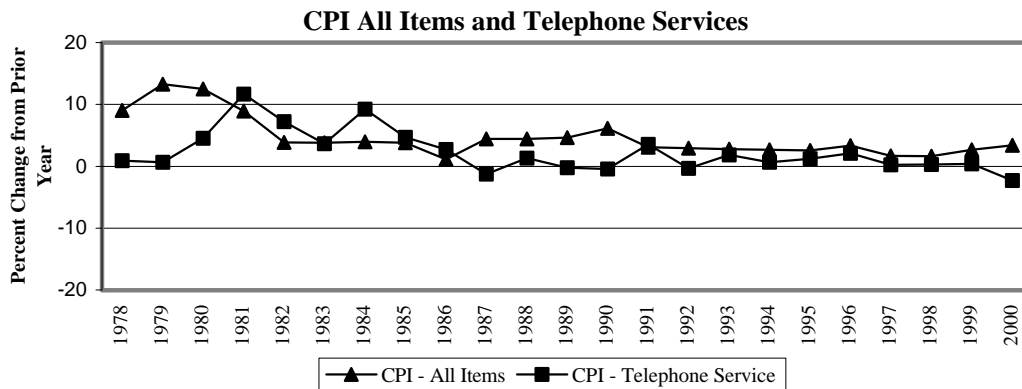
**Table 13.2**  
**Annual Changes in Major Price Indices**

|      | <b>GDP Chain-Type Price Index</b> | <b>CPI - All Items</b> | <b>CPI - Telephone Services</b> |
|------|-----------------------------------|------------------------|---------------------------------|
| 1978 | 7.4 %                             | 9.0 %                  | 0.9 %                           |
| 1979 | 8.3                               | 13.3                   | 0.7                             |
| 1980 | 9.6                               | 12.5                   | 4.6                             |
| 1981 | 8.3                               | 8.9                    | 11.7                            |
| 1982 | 5.1                               | 3.8                    | 7.2                             |
| 1983 | 3.6                               | 3.8                    | 3.6                             |
| 1984 | 3.5                               | 3.9                    | 9.2                             |
| 1985 | 3.0                               | 3.8                    | 4.7                             |
| 1986 | 2.2                               | 1.1                    | 2.7                             |
| 1987 | 3.1                               | 4.4                    | -1.3                            |
| 1988 | 3.7                               | 4.4                    | 1.3                             |
| 1989 | 3.6                               | 4.6                    | -0.3                            |
| 1990 | 4.1                               | 6.1                    | -0.4                            |
| 1991 | 2.8                               | 3.1                    | 3.5                             |
| 1992 | 2.2                               | 2.9                    | -0.3                            |
| 1993 | 2.7                               | 2.7                    | 1.8                             |
| 1994 | 2.0                               | 2.7                    | 0.7                             |
| 1995 | 2.1                               | 2.5                    | 1.2                             |
| 1996 | 1.7                               | 3.3                    | 2.1                             |
| 1997 | 1.6                               | 1.7                    | 0.2                             |
| 1998 | 1.3                               | 1.6                    | 0.3 *                           |
| 1999 | 1.6                               | 2.7                    | 0.4                             |
| 2000 | 2.4                               | 3.4                    | -2.3                            |

\* CPI telephone service index was revised in December of 1997.

Sources: Bureau of Labor Statistics and Bureau of Economic Analysis.

**Chart 13.1**



**Table 13.3**  
**Annual Changes in Price Indices for**  
**Local and Long Distance Telephone Services**

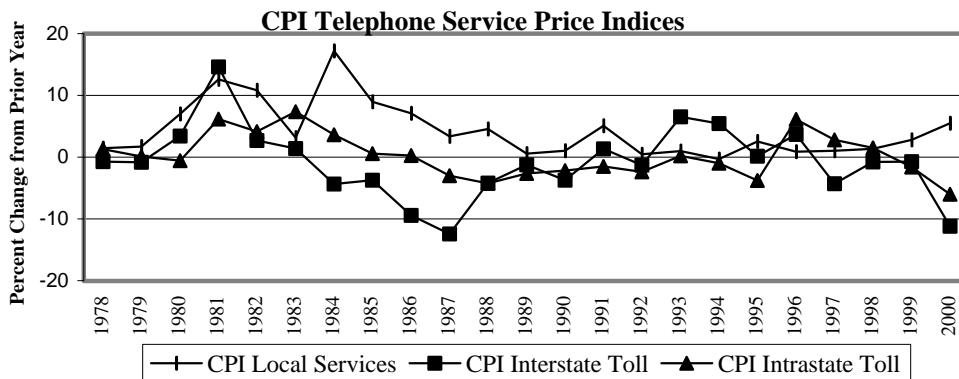
|      | Local Residential Service |       | Toll Service 1/ |       |            |       |
|------|---------------------------|-------|-----------------|-------|------------|-------|
|      | CPI                       | PPI   | Interstate      |       | Intrastate |       |
|      |                           |       | CPI             | PPI   | CPI        | PPI   |
| 1978 | 1.4 %                     | 3.1 % | -0.7 %          | 0.0 % | 1.3 %      | 0.1 % |
| 1979 | 1.7                       | 1.6   | -0.8            | -0.9  | 0.1        | -0.7  |
| 1980 | 7.0                       | 7.1   | 3.4             | 5.5   | -0.6       | 2.3   |
| 1981 | 12.6                      | 15.6  | 14.6            | 15.9  | 6.2        | 8.0   |
| 1982 | 10.8                      | 9.0   | 2.7             | 3.9   | 4.2        | 1.7   |
| 1983 | 3.1                       | 0.2   | 1.4             | 0.0   | 7.4        | 3.9   |
| 1984 | 17.2                      | 10.4  | -4.3            | -5.1  | 3.6        | 3.8   |
| 1985 | 8.9                       | 12.4  | -3.7            | -3.0  | 0.6        | 2.1   |
| 1986 | 7.1                       | 8.9   | -9.4            | -10.0 | 0.3        | -3.5  |
| 1987 | 3.3                       | 2.6   | -12.4           | -11.8 | -3.0       | -3.0  |
| 1988 | 4.5                       | 4.6   | -4.2            | -2.1  | -4.2       | -3.8  |
| 1989 | 0.6                       | 1.9   | -1.3            | -1.7  | -2.6       | 0.5   |
| 1990 | 1.0                       | 1.5   | -3.7            | -0.1  | -2.2       | -2.2  |
| 1991 | 5.1                       | 2.1   | 1.3             | -1.3  | -1.5       | -2.6  |
| 1992 | 0.5                       | -0.2  | -1.3            | 1.0   | -2.4       | 1.3   |
| 1993 | 1.0                       | 0.8   | 6.5             | 3.8   | 0.2        | -1.1  |
| 1994 | -0.3                      | 0.7   | 5.4             | 6.1   | -1.0       | -1.4  |
| 1995 | 2.6                       | 2/    | 0.1             | 2/    | -3.8       | 2/    |
| 1996 | 0.9                       | 0.2   | 3.7             | 2.5   | 6.1        | 0.5   |
| 1997 | 1.0                       | 0.2   | -4.3            | 3.6   | 2.8        | -4.0  |
| 1998 | 1.3                       | -0.1  | -0.8            | 0.0   | 1.5        | -3.3  |
| 1999 | 2.8                       | 0.2   | -0.7            | 1.2   | -1.6       | -2.0  |
| 2000 | 5.5                       | 1.6   | -11.2           | 4.5   | -6.0       | 6.4   |

1/ CPI toll indices represent rates for households. Through 1994, PPI toll indices represent rate changes for both business and residential consumers. Since 1995, PPI indices reflect rates for residential customers.

2/ The PPI telephone indices were revised in June of 1995. The series are not comparable. Due to month-to-month variation in the new PPI indices, PPI price levels are determined using a five-month weighted average.

Source: Bureau of Labor Statistics.

**Chart 13.2**





## 14 Price Levels

### 1. Local Rate Levels

The price indices maintained by the Bureau of Labor Statistics indicate percentage changes in the price of telephone services. BLS does not publish actual rate levels. Calculations of average rates are based on surveys by FCC staff. These surveys use the same sampling areas and weights used by BLS in constructing the Consumer Price Index.

Table 14.1 presents average local rates for residential customers in urban areas. In October 2000, the monthly charge was \$20.78, while the average charge for connecting phone service was \$44.10.

Table 14.2 presents average local rates for a business with a single phone line in an urban area. In October 2000, the representative monthly charge was \$41.80 while the charge for connecting phone service was \$72.29.

### 2. Long Distance Rates

AT&T's *basic schedule prices* are shown in Table 14.3. Currently most calls are charged lower prices reflecting calling plans and volume discounts. Calls requiring operator services are charged higher rates. Nevertheless, only basic schedule rates were available for many years and are therefore available for such direct comparisons over a long period of time.

Tables 14.4 and 14.5 contain measures of Average Revenue per Minute (APRM) for long distance calls. Estimates of APRM are often used interchangeably with estimates of the average price. From 1984 to 1999, the cost of long distance calling dropped from 32 cents per minute to 14 cents per minute. The average price of 14 cents per minute represents a mix of international calling (56 cents per minute) and domestic interstate calling (11 cents per minute). The decline in prices since 1984 is more than 70% after adjusting for the impact of inflation.



**Table 14.1**  
**Average Residential Rates for Local Service in Urban Areas, 1986-2000**  
**(as of October 15, 1986-2000)**

|   | 1986           | 1987           | 1988           | 1989           | 1990           | 1991           | 1992           | 1993           | 1994           | 1995           | 1996           | 1997           | 1998           | 1999           | 2000           |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Representative Monthly Charge 1/<br>Subscriber Line Charges   | \$12.58        | \$12.44        | \$12.32        | \$12.30        | \$12.36        | \$13.03        | \$13.05        | \$13.16        | \$13.19        | \$13.62        | \$13.71        | \$13.67        | \$13.75        | \$13.77        | \$13.64        |
| Additional Monthly Charge for Touch<br>Tone Service           | 2.04           | 2.66           | 2.67           | 3.53           | 3.55           | 3.56           | 3.55           | 3.55           | 3.55           | 3.54           | 3.54           | 3.53           | 3.52           | 3.58           | 4.50           |
| Taxes, 911, and Other Charges                                 | 1.57           | 1.52           | 1.54           | 1.52           | 1.33           | 1.06           | 0.97           | 0.94           | 0.77           | 0.44           | 0.30           | 0.25           | 0.10           | 0.09           | 0.06           |
|   | 1.51           | 1.56           | 1.58           | 1.70           | 2.00           | 2.12           | 2.15           | 2.29           | 2.31           | 2.41           | 2.40           | 2.42           | 2.39           | 2.48           | 2.57           |
| <b>Total Monthly Charge</b>                                   | <b>\$17.70</b> | <b>\$18.18</b> | <b>\$18.11</b> | <b>\$19.05</b> | <b>\$19.24</b> | <b>\$19.77</b> | <b>\$19.72</b> | <b>\$19.95</b> | <b>\$19.81</b> | <b>\$20.01</b> | <b>\$19.95</b> | <b>\$19.88</b> | <b>\$19.76</b> | <b>\$19.93</b> | <b>\$20.78</b> |
| Basic Connection Charge                                       | \$45.63        | \$44.04        | \$42.94        | \$43.06        | \$43.06        | \$42.00        | \$41.50        | \$41.38        | \$41.28        | \$40.91        | \$41.11        | \$41.04        | \$41.24        | \$41.26        | \$41.45        |
| Additional Connection Charge for<br>Touch-Tone Service        | 1.34           | 1.31           | 1.55           | 1.76           | 1.77           | 1.27           | 1.22           | 1.23           | 0.85           | 0.23           | 0.23           | 0.17           | 0.12           | 0.12           | 0.12           |
| Taxes, 911, and Other Charges                                 | 2.28           | 2.20           | 2.11           | 2.44           | 2.32           | 2.30           | 2.29           | 2.30           | 2.33           | 2.44           | 2.36           | 2.46           | 2.38           | 2.57           | 2.53           |
| <b>Total Connection Charge</b>                                | <b>\$49.25</b> | <b>\$47.55</b> | <b>\$46.60</b> | <b>\$47.26</b> | <b>\$47.15</b> | <b>\$45.57</b> | <b>\$45.01</b> | <b>\$44.92</b> | <b>\$44.46</b> | <b>\$43.58</b> | <b>\$43.70</b> | <b>\$43.67</b> | <b>\$43.74</b> | <b>\$43.95</b> | <b>\$44.10</b> |
| Additional Charge if Drop Line and<br>Connection Block Needed | NA             | NA             | \$6.04         | \$6.07         | \$6.89         | \$6.89         | \$6.50         | \$7.29         | \$6.74         | \$5.90         | \$5.74         | \$5.65         | \$5.64         | \$5.86         | \$5.84         |
| Lowest-Cost Inside Wiring<br>Maintenance Plan                 | \$0.58         | \$0.85         | \$0.89         | \$1.07         | \$1.07         | \$1.20         | \$1.25         | \$1.31         | \$1.45         | \$1.52         | \$1.78         | \$1.68         | \$2.22         | \$2.66         | \$3.03         |

NA - Not Available.

1/ Rate is based upon flat-rate service where available, and measured/message service with 100 five-minute, same-zone business-day calls elsewhere.

Source: Urban Rates Survey.

**Table 14.2**  
**Average Local Rates for Businesses with a Single Line in Urban Areas**  
**(As of October 15, 1989-2000)**

|  | 1989           | 1990           | 1991           | 1992           | 1993           | 1994           | 1995           | 1996           | 1997           | 1998           | 1999           | 2000           |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Monthly Representative Service Charge 1/                   | \$31.06        | \$30.97        | \$32.29        | \$32.45        | \$32.70        | \$32.25        | \$32.48        | \$32.58        | \$32.76        | \$32.44        | \$32.41        | \$32.18        |
| Subscriber Line Charges                                    | 3.55           | 3.57           | 3.57           | 3.56           | 3.57           | 3.57           | 3.57           | 3.54           | 3.54           | 3.54           | 3.52           | 4.39           |
| Touch-Tone Service   | 2.43           | 2.35           | 1.84           | 1.71           | 1.67           | 1.21           | 0.97           | 0.82           | 0.38           | 0.32           | 0.25           | 0.19           |
| Taxes, 911, and Other Charges                              | 4.21           | 4.32           | 4.42           | 4.57           | 4.63           | 4.61           | 4.79           | 4.87           | 4.99           | 4.97           | 5.03           | 5.04           |
| <b>Total Monthly Charge</b>                                | <b>\$41.25</b> | <b>\$41.21</b> | <b>\$42.12</b> | <b>\$42.29</b> | <b>\$42.57</b> | <b>\$41.64</b> | <b>\$41.80</b> | <b>\$41.81</b> | <b>\$41.67</b> | <b>\$41.27</b> | <b>\$41.21</b> | <b>\$41.80</b> |
| Monthly Charge for Flat-Rate Service                       | \$33.04        | \$33.29        | \$34.12        | \$34.06        | \$34.85        | \$34.39        | \$34.45        | \$34.42        | \$34.68        | \$34.39        | \$33.73        | \$33.45        |
| Subscriber Line Charges                                    | 3.65           | 3.69           | 3.70           | 3.70           | 3.70           | 3.70           | 3.69           | 3.61           | 3.61           | 3.56           | 3.50           | 4.35           |
| Touch-Tone Service   | 2.12           | 2.11           | 1.87           | 1.84           | 1.76           | 1.12           | 1.00           | 0.89           | 0.53           | 0.49           | 0.47           | 0.43           |
| Taxes, 911, and Other Charges                              | 4.90           | 4.98           | 5.22           | 5.34           | 5.50           | 5.36           | 5.58           | 5.55           | 5.58           | 5.63           | 5.49           | 5.68           |
| <b>Total Monthly Charge for Flat-Rate Service</b>          | <b>\$43.71</b> | <b>\$44.07</b> | <b>\$44.91</b> | <b>\$44.94</b> | <b>\$45.81</b> | <b>\$44.57</b> | <b>\$44.71</b> | <b>\$44.47</b> | <b>\$44.39</b> | <b>\$44.07</b> | <b>\$43.20</b> | <b>\$43.90</b> |
| Number of Sample Cities with Flat-Rate Service             | 59             | 56             | 54             | 54             | 54             | 53             | 53             | 53             | 53             | 54             | 54             | 54             |
| Monthly Charge for Measured/Message Service                | \$16.18        | \$16.17        | \$16.76        | \$16.55        | \$16.60        | \$16.74        | \$17.06        | \$17.26        | \$17.28        | \$17.16        | \$17.06        | \$16.92        |
| 200 Five-Minute Business-Day Same-Zone Calls               | 16.11          | 16.19          | 16.70          | 17.23          | 17.57          | 17.38          | 17.15          | 17.10          | 17.18          | 17.15          | 17.24          | 17.63          |
| Subscriber Line Charges                                    | 3.54           | 3.55           | 3.55           | 3.54           | 3.55           | 3.55           | 3.54           | 3.51           | 3.51           | 3.53           | 3.52           | 4.39           |
| Touch-Tone Service   | 2.48           | 2.39           | 1.87           | 1.73           | 1.68           | 1.22           | 0.98           | 0.83           | 0.39           | 0.33           | 0.25           | 0.20           |
| Taxes, 911, and Other Charges                              | 4.41           | 4.53           | 4.56           | 4.77           | 4.86           | 4.83           | 5.01           | 5.13           | 5.22           | 5.19           | 5.28           | 5.32           |
| <b>Total Monthly Charge for Measured/Message Service</b>   | <b>\$42.72</b> | <b>\$42.83</b> | <b>\$43.44</b> | <b>\$43.82</b> | <b>\$44.26</b> | <b>\$43.72</b> | <b>\$43.75</b> | <b>\$43.84</b> | <b>\$43.57</b> | <b>\$43.35</b> | <b>\$43.35</b> | <b>\$44.45</b> |
| Number of Sample Cities with Measured/Message Service      | 83             | 83             | 84             | 84             | 84             | 87             | 87             | 86             | 85             | 85             | 85             | 85             |
| Cost of a Five-Minute Business-Day Same-Zone Call          | \$0.09         | \$0.09         | \$0.09         | \$0.09         | \$0.09         | \$0.09         | \$0.09         | \$0.09         | \$0.09         | \$0.09         | \$0.09         | \$0.10         |
| Basic Connection Charge                                    | \$71.05        | \$71.36        | \$72.75        | \$72.55        | \$71.41        | \$69.88        | \$67.87        | \$68.47        | \$68.67        | \$65.83        | \$67.87        | \$67.77        |
| Additional Connection Charge for Touch-Tone Service        | 1.70           | 1.89           | 1.13           | 1.19           | 1.17           | 0.92           | 0.27           | 0.17           | 0.17           | 0.12           | 0.12           | 0.12           |
| Tax  | 4.06           | 4.15           | 4.32           | 4.33           | 4.25           | 4.13           | 4.17           | 4.20           | 4.45           | 4.13           | 4.53           | 4.40           |
| <b>Total Connection Charge</b>                             | <b>\$76.81</b> | <b>\$77.40</b> | <b>\$78.20</b> | <b>\$78.07</b> | <b>\$76.83</b> | <b>\$74.93</b> | <b>\$72.31</b> | <b>\$72.85</b> | <b>\$73.29</b> | <b>\$70.09</b> | <b>\$72.55</b> | <b>\$72.29</b> |
| Additional Charge if Drop Line and Connection Block Needed | \$5.92         | \$7.87         | \$6.90         | \$6.83         | \$6.64         | \$6.49         | \$7.28         | \$6.98         | \$6.54         | \$6.54         | \$6.65         | \$6.62         |
| Lowest-Cost Inside Wiring Maintenance Plan                 | \$1.78         | \$1.91         | \$2.05         | \$2.03         | \$2.08         | \$2.26         | \$2.39         | \$2.63         | \$2.84         | \$3.04         | \$3.53         | \$3.92         |

1/ Rate is based upon flat-rate service where available, and measured/message service with 200 five-minute, same-zone business-day calls elsewhere.

Source: Urban Rates Survey.

**Table 14.3**  
**Changes in the Price of Directly Dialed Five-Minute Long Distance Calls**  
**(AT&T Basic Rate Schedules)**

| Calling Distance<br>(In Airline Miles,<br>Rate Center to<br>Rate Center) | Residential 1/  |              |                      | Business 2/     |              |                      |         |
|--|-----------------|--------------|----------------------|-----------------|--------------|----------------------|---------|
|  | January<br>1984 | July<br>2001 | Percentage<br>Change | January<br>1984 | July<br>2001 | Percentage<br>Change |         |
| 1 - 10   | Day             | \$0.96       | \$1.50               | 56.3 %          | \$0.96       | \$2.69               | 180.2 % |
|  | Evening         | 0.57         | 1.25                 | 119.3           | 0.57         | 2.69                 | 371.9   |
|  | Night & Weekend | 0.38         | 0.80                 | 110.5           | 0.38         | 2.69                 | 607.9   |
| 11 - 22  | Day             | 1.28         | 1.50                 | 17.2            | 1.28         | 2.69                 | 110.2   |
|  | Evening         | 0.76         | 1.25                 | 64.5            | 0.76         | 2.69                 | 253.9   |
|  | Night & Weekend | 0.51         | 0.80                 | 56.9            | 0.51         | 2.69                 | 427.5   |
| 23 - 55  | Day             | 1.60         | 1.50                 | (6.3)           | 1.60         | 2.69                 | 68.1    |
|  | Evening         | 0.96         | 1.25                 | 30.2            | 0.96         | 2.69                 | 180.2   |
|  | Night & Weekend | 0.64         | 0.80                 | 25.0            | 0.64         | 2.69                 | 320.3   |
| 56 - 124   | Day             | 2.05         | 1.50                 | (26.8)          | 2.05         | 2.69                 | 31.2    |
|  | Evening         | 1.22         | 1.25                 | 2.5             | 1.22         | 2.69                 | 120.5   |
|  | Night & Weekend | 0.82         | 0.80                 | (2.4)           | 0.82         | 2.69                 | 228.0   |
| 125 - 292  | Day             | 2.14         | 1.50                 | (29.9)          | 2.14         | 2.69                 | 25.7    |
|  | Evening         | 1.28         | 1.25                 | (2.3)           | 1.28         | 2.69                 | 110.2   |
|  | Night & Weekend | 0.85         | 0.80                 | (5.9)           | 0.85         | 2.69                 | 216.5   |
| 293 - 430  | Day             | 2.27         | 1.50                 | (33.9)          | 2.27         | 2.69                 | 18.5    |
|  | Evening         | 1.36         | 1.25                 | (8.1)           | 1.36         | 2.69                 | 97.8    |
|  | Night & Weekend | 0.90         | 0.80                 | (11.1)          | 0.90         | 2.69                 | 198.9   |
| 431 - 925  | Day             | 2.34         | 1.50                 | (35.9)          | 2.34         | 2.69                 | 15.0    |
|  | Evening         | 1.40         | 1.25                 | (10.7)          | 1.40         | 2.69                 | 92.1    |
|  | Night & Weekend | 0.93         | 0.80                 | (14.0)          | 0.93         | 2.69                 | 189.2   |
| 926 - 1910   | Day             | 2.40         | 1.50                 | (37.5)          | 2.40         | 2.69                 | 12.1    |
|  | Evening         | 1.44         | 1.25                 | (13.2)          | 1.44         | 2.69                 | 86.8    |
|  | Night & Weekend | 0.96         | 0.80                 | (16.7)          | 0.96         | 2.69                 | 180.2   |
| 1911 - 3000  | Day             | 2.70         | 1.50                 | (44.4)          | 2.70         | 2.69                 | (0.4)   |
|  | Evening         | 1.62         | 1.25                 | (22.8)          | 1.62         | 2.69                 | 66.0    |
|  | Night & Weekend | 1.08         | 0.80                 | (25.9)          | 1.08         | 2.69                 | 149.1   |
| 3001 - 4250  | Day             | 2.80         | 1.50                 | (46.4)          | 2.80         | 2.69                 | (3.9)   |
|  | Evening         | 1.68         | 1.25                 | (25.6)          | 1.68         | 2.69                 | 60.1    |
|  | Night & Weekend | 1.12         | 0.80                 | (28.6)          | 1.12         | 2.69                 | 140.2   |
| 4251 - 5750  | Day             | 2.91         | 1.50                 | (48.5)          | 2.91         | 2.69                 | (7.6)   |
|  | Evening         | 1.74         | 1.25                 | (28.2)          | 1.74         | 2.69                 | 54.6    |
|  | Night & Weekend | 1.16         | 0.80                 | (31.0)          | 1.16         | 2.69                 | 131.9   |

1/ AT&T initiated a new rate structure for residential customers on November 8, 1997. The new rate structure eliminates mileage bands and implements weekday-peak and off-peak time bands and a weekend band. The new rates are shown in the old rate structure for the purposes of comparison.

2/ AT&T initiated a new rate structure for business customers on November 5, 1997. The rate structure eliminates mileage, time-of-day, and day-of-week bands. The new rates are shown in the old rate structure for the purposes of comparison.

Source: Tariffs on file at FCC.

**Table 14.4**  
**Average Revenue per Minute**

|      | AT&T<br><br>All Interstate<br>and International<br>Switched Services | All Carriers   |  |                                     |
|------|--|--|--|-------------------------------------|
|      |  | All Interstate<br>and International<br>Switched Services | International<br>Switched Services<br>1/ | All Interstate<br>Switched Services |
| 1984 | \$0.32   |  |  |                                     |
| 1985 | 0.31   |  |  |                                     |
| 1986 | 0.28   |  |  |                                     |
| 1987 | 0.25   |  |  |                                     |
| 1988 | 0.23   |  |  |                                     |
| 1989 | 0.22   |  |  |                                     |
| 1990 | 0.20   |  |  |                                     |
| 1991 | 0.20   |  |  |                                     |
| 1992 | 0.19   | \$0.19   | \$1.04                                   | \$0.15                              |
| 1993 | 0.19   | 0.19   | 1.03                                     | 0.15                                |
| 1994 | 0.18   | 0.18   | 0.96                                     | 0.14                                |
| 1995 | NA   | 0.17   | 0.92                                     | 0.13                                |
| 1996 | NA   | 0.16   | 0.78                                     | 0.12                                |
| 1997 | NA   | 0.15   | 0.71                                     | 0.11                                |
| 1998 | NA   | 0.14   | 0.68                                     | 0.11                                |
| 1999 | NA   | 0.14   | 0.56                                     | 0.11                                |

NA - Not Available

Note: Data for some prior years have been revised.

1/ Billed revenue per minute for international service differs in Table 6.1 and Table 14.4. Data in Table 6.1 are based on revenues billed by underlying carriers. Data for Table 14.4 are based on staff estimates of end-user revenues.

Sources: AT&T information provided by AT&T. Other estimates from Industry Analysis Division, *Telecommunications Industry Revenues*.

**Table 14.5**  
**Indicators of Long Distance Prices**

|      | Average Revenue per Minute for Interstate and International Calls <sup>1/</sup> | AT&T Charge per Minute for a 10-Minute Day Rate 200-Mile Call (Basic Rates) | Consumer Price Index: All Goods and Services (1982-1984 = 100) | Restated in 1999 Dollars |  |
|------|---|---|--|--------------------------|--|
|      |   |   |  | Revenue per Minute       | Basic Rate 200-Mile Call Charge per Minute |
| 1930 | \$0.27  | \$0.35  | 16.7   | \$2.74                   | \$3.49                                     |
| 1931 | 0.27  | 0.35  | 15.2   | 2.95                     | 3.84                                       |
| 1932 | 0.26  | 0.35  | 13.7   | 3.19                     | 4.26                                       |
| 1933 | 0.28  | 0.35  | 13.0   | 3.53                     | 4.49                                       |
| 1934 | 0.27  | 0.35  | 13.4   | 3.38                     | 4.35                                       |
| 1935 | 0.27  | 0.35  | 13.7   | 3.23                     | 4.26                                       |
| 1936 | 0.25  | 0.35  | 13.9   | 3.01                     | 4.19                                       |
| 1937 | 0.22  | 0.35  | 14.4   | 2.51                     | 4.05                                       |
| 1938 | 0.21  | 0.26  | 14.1   | 2.53                     | 3.01                                       |
| 1939 | 0.22  | 0.26  | 13.9   | 2.59                     | 3.06                                       |
| 1940 | 0.21  | 0.26  | 14.0   | 2.50                     | 3.03                                       |
| 1941 | 0.21  | 0.26  | 14.7   | 2.35                     | 2.89                                       |
| 1942 | 0.22  | 0.26  | 16.3   | 2.21                     | 2.61                                       |
| 1943 | 0.21  | 0.22  | 17.3   | 2.03                     | 2.12                                       |
| 1944 | 0.22  | 0.22  | 17.6   | 2.04                     | 2.08                                       |
| 1945 | 0.21  | 0.22  | 18.0   | 1.96                     | 2.04                                       |
| 1946 | 0.20  | 0.22  | 19.5   | 1.69                     | 1.88                                       |
| 1947 | 0.19  | 0.22  | 22.3   | 1.43                     | 1.64                                       |
| 1948 | 0.19  | 0.22  | 24.1   | 1.29                     | 1.52                                       |
| 1949 | 0.19  | 0.22  | 23.8   | 1.32                     | 1.54                                       |
| 1950 | 0.19  | 0.22  | 24.1   | 1.33                     | 1.52                                       |
| 1951 | 0.20  | 0.22  | 26.0   | 1.29                     | 1.41                                       |
| 1952 | 0.20  | 0.22  | 26.5   | 1.27                     | 1.38                                       |
| 1953 | 0.21  | 0.22  | 26.7   | 1.30                     | 1.37                                       |
| 1954 | 0.22  | 0.22  | 26.9   | 1.38                     | 1.36                                       |
| 1955 | 0.23  | 0.22  | 26.8   | 1.43                     | 1.37                                       |
| 1956 | 0.23  | 0.22  | 27.2   | 1.43                     | 1.35                                       |
| 1957 | 0.24  | 0.22  | 28.1   | 1.41                     | 1.30                                       |
| 1958 | 0.24  | 0.22  | 28.9   | 1.38                     | 1.27                                       |
| 1959 | 0.24  | 0.22  | 29.1   | 1.38                     | 1.26                                       |
| 1960 | 0.24  | 0.22  | 29.6   | 1.36                     | 1.24                                       |
| 1961 | 0.25  | 0.22  | 29.9   | 1.39                     | 1.23                                       |
| 1962 | 0.25  | 0.22  | 30.2   | 1.40                     | 1.21                                       |
| 1963 | 0.25  | 0.22  | 30.6   | 1.35                     | 1.20                                       |
| 1964 | 0.25  | 0.22  | 31.0   | 1.34                     | 1.18                                       |
| 1965 | 0.24  | 0.22  | 31.5   | 1.27                     | 1.16                                       |
| 1966 | 0.24  | 0.22  | 32.4   | 1.25                     | 1.13                                       |
| 1967 | 0.24  | 0.22  | 33.4   | 1.21                     | 1.10                                       |
| 1968 | 0.24  | 0.22  | 34.8   | 1.13                     | 1.05                                       |
| 1969 | 0.24  | 0.22  | 36.7   | 1.09                     | 1.00                                       |

<sup>1/</sup> Estimates for 1930 through 1981 are based on information in AT&T *Long Lines Statistics*, 1930-1963, 1946-1970, and 1960-1981, and appear to represent data for the conterminous U.S. only. Data prior to 1946 may not be comparable. Data for 1982 and 1983 were estimated using BLS price index changes. Data for 1984 through 1991 were supplied by AT&T. Starting with 1992, data are from Industry Analysis Division, *Telecommunications Industry Revenue*.

**Table 14.5**  
**Indicators of Long Distance Prices - Continued**

|      | Average Revenue per Minute for Interstate and International Calls<br>1/ | AT&T Charge per Minute for a 10-Minute Day Rate 200-Mile Call (Basic Rates) | Consumer Price Index: All Goods and Services (1982-1984 = 100) | Restated in 1999 Dollars |  |
|------|---|---|--|--------------------------|--|
|      |   |   |  | Revenue per Minute       | Basic Rate 200-Mile Call Charge per Minute |
| 1970 | \$0.23  | \$0.22  | 38.8   | \$0.99                   | \$0.92                                     |
| 1971 | 0.25  | 0.21  | 40.5   | 1.01                     | 0.86                                       |
| 1972 | 0.24  | 0.23  | 41.8   | 0.97                     | 0.93                                       |
| 1973 | 0.25  | 0.23  | 44.4   | 0.95                     | 0.88                                       |
| 1974 | 0.26  | 0.25  | 49.3   | 0.87                     | 0.84                                       |
| 1975 | 0.27  | 0.25  | 53.8   | 0.85                     | 0.77                                       |
| 1976 | 0.29  | 0.32  | 56.9   | 0.83                     | 0.92                                       |
| 1977 | 0.28  | 0.33  | 60.6   | 0.78                     | 0.89                                       |
| 1978 | 0.29  | 0.33  | 65.2   | 0.73                     | 0.85                                       |
| 1979 | 0.29  | 0.33  | 72.6   | 0.67                     | 0.77                                       |
| 1980 | 0.30  | 0.33  | 82.4   | 0.61                     | 0.68                                       |
| 1981 | 0.33  | 0.35  | 90.9   | 0.60                     | 0.65                                       |
| 1982 | 0.34  | 0.41  | 96.5   | 0.59                     | 0.70                                       |
| 1983 | 0.35  | 0.41  | 99.6   | 0.58                     | 0.68                                       |
| 1984 | 0.32  | 0.41  | 103.9  | 0.52                     | 0.66                                       |
| 1985 | 0.31  | 0.39  | 107.6  | 0.48                     | 0.60                                       |
| 1986 | 0.28  | 0.31  | 109.6  | 0.43                     | 0.48                                       |
| 1987 | 0.25  | 0.27  | 113.6  | 0.36                     | 0.39                                       |
| 1988 | 0.23  | 0.25  | 118.3  | 0.33                     | 0.35                                       |
| 1989 | 0.22  | 0.23  | 124.0  | 0.29                     | 0.31                                       |
| 1990 | 0.20  | 0.22  | 130.7  | 0.26                     | 0.27                                       |
| 1991 | 0.20  | 0.21  | 136.2  | 0.24                     | 0.26                                       |
| 1992 | 0.19  | 0.21  | 140.3  | 0.23                     | 0.25                                       |
| 1993 | 0.19  | 0.22  | 144.5  | 0.22                     | 0.25                                       |
| 1994 | 0.18  | 0.24  | 148.2  | 0.20                     | 0.27                                       |
| 1995 | 0.17  | 0.27  | 152.4  | 0.19                     | 0.30                                       |
| 1996 | 0.16  | 0.28  | 156.9  | 0.17                     | 0.30                                       |
| 1997 | 0.15  | 0.29  | 160.5  | 0.15                     | 0.30                                       |
| 1998 | 0.14  | 0.28  | 163.0  | 0.15                     | 0.29                                       |
| 1999 | 0.14  | 0.26  | 166.6  | 0.14                     | 0.26                                       |

1/ Estimates for 1930 through 1981 are based on information in AT&T *Long Lines Statistics*, 1930-1963, 1946-1970, and 1960-1981, and appear to represent data for the conterminous U.S. only. Data prior to 1946 may not be comparable. Data for 1982 and 1983 were estimated using BLS price index changes. Data for 1984 through 1991 were supplied by AT&T. Starting with 1992, data are from Industry Analysis Division, *Telecommunications Industry Revenue*.



## 15 Residential Telephone Usage

Bill harvesting data collected by TNS Telecoms (TNS) provide information on phone usage in the long distance residential market, as opposed to the overall market for toll service. TNS, an economic research and consulting firm located in Jenkinstown, Pennsylvania, conducts nationwide surveys of residential telephone usage and household expenditures on telephone service. These surveys, in which households are asked to mail copies of their phone bills for one month to TNS, are called bill harvesting studies. The company has donated databases containing information on residential phone usage to the Commission.

The bill harvesting data reflect calls itemized on residential telephone bills. Thus, 800 and 800-like calls made from the residence are not included, nor are collect calls made from the residence. In contrast, 800 and 800-like calls received, and shown on the household monthly bill, are included, as are collect calls received.

Table 15.1 shows the percentage of residential long distance telephone usage that is intrastate, interstate and international. In 2000, 37% of residential toll phone calls were interstate as opposed to 48% of minutes. Table 15.2 shows the average number of minutes on household telephone bills from 1995-2000.

Table 15.3 shows the distribution of residential long distance calls by call duration. The average interstate residential call lasts ten minutes, although about one-third of interstate toll calls last one minute or less. Tables 15.4 and 15.5 show the duration and length of haul of residential long distance calls. The average distance of an interstate call is 708 miles, as opposed to 54 miles for an intrastate call.

Table 15.6 shows the percentage of residential long distance minutes by day of week. In the 2000 survey, 34% of residential minutes were on weekdays between 7:00 a.m. and 7:00 p.m., and 36% of residential minutes were on weekends.



**Table 15.1**  
**Distribution of Residential Toll Calls and Minutes**

| <b>Type</b>             | <b>1995</b> | <b>1996</b> | <b>1997</b> | <b>1998</b> | <b>1999</b> | <b>2000</b> |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Calls</b>            |             |             |             |             |             |             |
| IntraLATA-Intrastate    | 41 %        | 40 %        | 38 %        | 38 %        | 39 %        | 39 %        |
| InterLATA-Intrastate    | 19          | 18          | 19          | 19          | 18          | 17          |
| IntraLATA-Interstate    | 1           | 1           | 1           | 1           | 1           | 1           |
| InterLATA-Interstate    | 37          | 35          | 37          | 36          | 37          | 36          |
| International           | 1           | 1           | 1           | 1           | 1           | 1           |
| Others 1/               | 2           | 5           | 5           | 4           | 4           | 5           |
| Total Calls in Sample   | 197,787     | 165,465     | 483,685     | 578,850     | 474,408     | 538,337     |
| <b>Minutes</b>          |             |             |             |             |             |             |
| IntraLATA-Intrastate    | 28 %        | 29 %        | 27 %        | 27 %        | 28 %        | 29 %        |
| InterLATA-Intrastate    | 18          | 18          | 18          | 18          | 17          | 17          |
| IntraLATA-Interstate    | 1           | 1           | 1           | 1           | 1           | 1           |
| InterLATA-Interstate    | 50          | 47          | 49          | 49          | 49          | 47          |
| International           | 2           | 1           | 1           | 1           | 2           | 2           |
| Others 1/               | 1           | 4           | 4           | 3           | 3           | 5           |
| Total Minutes in Sample | 1,493,674   | 1,210,675   | 3,673,315   | 4,330,888   | 3,544,905   | 4,030,602   |

Note: Figures may not add due to rounding.

1/ Toll-free calls billed to residential customers, 900 calls and calls that cannot be classified.

Source: Calculated by IAD staff with data provided by TNS Telecoms (formerly PNR and Associates), *Telecoms Market Monitor*<sup>TM</sup>.

**Table 15.2**  
**Average Residential Monthly Toll Calling**

| <b>Type</b>          | <b>1995</b> | <b>1996</b> | <b>1997</b> | <b>1998</b> | <b>1999</b> | <b>2000</b> |
|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| IntraLATA-Intrastate | 40          | 41          | 41          | 40          | 36          | 33          |
| InterLATA-Intrastate | 26          | 26          | 27          | 26          | 23          | 19          |
| IntraLATA-Interstate | 1           | 1           | 1           | 1           | 1           | 1           |
| InterLATA-Interstate | 71          | 67          | 73          | 71          | 65          | 55          |
| International        | 3           | 1           | 2           | 2           | 2           | 2           |
| Others 1/            | 1           | 6           | 6           | 5           | 4           | 5           |
| All Types            | 143         | 143         | 149         | 144         | 131         | 116         |

Sample Size: 26,999 households.

Note: Figures may not add due to rounding.

1/ Toll-free calls billed to residential customers, 900 calls and calls that cannot be classified.

Source: Calculated by IAD staff with data provided by TNS Telecoms (formerly PNR and Associates), *Telecoms Market Monitor*<sup>TM</sup>.

**Table 15.3**  
**Duration of Residential Long Distance Calls: 2000 1/**

| <b>Duration of Call<br/>(In Minutes)</b> | <b>Intrastate</b> | <b>Interstate</b> | <b>All Calls</b> |
|--|-------------------|-------------------|------------------|
| 1  | 41.6 %            | 32.8 %            | 38.0 %           |
| 2  | 13.8              | 9.6               | 12.1             |
| 3  | 8.2               | 7.1               | 7.8              |
| 4  | 5.1               | 4.1               | 4.7              |
| 5  | 3.8               | 3.4               | 3.6              |
| 6  | 3.0               | 3.0               | 3.0              |
| 7  | 2.4               | 2.6               | 2.5              |
| 8  | 2.1               | 2.4               | 2.2              |
| 9  | 1.7               | 2.1               | 1.9              |
| 10                                       | 3.1               | 4.0               | 3.5              |
| 11-15                                    | 5.3               | 8.2               | 6.5              |
| 16-20                                    | 3.2               | 5.7               | 4.2              |
| 21-25                                    | 2.0               | 4.1               | 2.8              |
| 26-30                                    | 1.3               | 2.9               | 1.9              |
| 31-45                                    | 2.0               | 4.6               | 3.1              |
| 46-60                                    | 0.7               | 1.8               | 1.2              |
| Greater Than 60                          | 0.6               | 1.6               | 1.0              |
| Average Duration                         | 6.1               | 10.0              | 7.7              |
| Median Duration                          | 2.0               | 4.0               | 2.0              |

1/ Direct-dial calls carried by long distance carriers and local exchange carriers.. Includes only domestic calls.

Source: Calculated by IAD staff with data provided by TNS Telecoms (formerly PNR and Associates), *Telecoms Market Monitor*<sup>TM</sup>.

**Table 15.4**  
**Duration and Length of Haul of Intrastate Toll Calls 1/**

|      | <b>Duration (in Minutes)</b> |               | <b>Length of Haul (in Miles)</b> |               |
|------|------------------------------|---------------|----------------------------------|---------------|
|      | <b>Average</b>               | <b>Median</b> | <b>Average</b>                   | <b>Median</b> |
| 1995 | 6.0                          | 2.0           | 53                               | 26            |
| 1996 | 6.0                          | 2.0           | 55                               | 28            |
| 1997 | 6.2                          | 2.0           | 56                               | 28            |
| 1998 | 6.0                          | 2.0           | 55                               | 29            |
| 1999 | 6.0                          | 2.0           | 54                               | 29            |
| 2000 | 6.1                          | 2.0           | 54                               | 28            |

1/ Direct-dial calls carried by long distance carriers and local exchange carriers. Includes only domestic calls.

Source: Calculated by IAD staff with data provided by TNS Telecoms (formerly PNR and Associates), *Telecoms Market MonitorTM*.

**Table 15.5**  
**Duration and Length of Haul of Interstate Toll Calls 1/**

|      | <b>Duration (in Minutes)</b> |               | <b>Length of Haul (in Miles)</b> |               |
|------|------------------------------|---------------|----------------------------------|---------------|
|      | <b>Average</b>               | <b>Median</b> | <b>Average</b>                   | <b>Median</b> |
| 1995 | 10.6                         | 4.0           | 689                              | 507           |
| 1996 | 10.0                         | 4.0           | 670                              | 473           |
| 1997 | 10.3                         | 4.0           | 695                              | 480           |
| 1998 | 10.3                         | 4.0           | 691                              | 493           |
| 1999 | 10.0                         | 3.9           | 702                              | 507           |
| 2000 | 10.0                         | 4.0           | 708                              | 525           |

1/ Direct-dial calls carried by long distance carriers and local exchange carriers. Includes only domestic calls.

Source: Calculated by IAD staff with data provided by TNS Telecoms (formerly PNR and Associates), *Telecoms Market MonitorTM*.

**Table 15.6**  
**Distribution of Residential Long Distance Minutes by Day of Week in 2000 1/**

| <b>Day</b>   | <b>7:00 AM-6:59 PM</b> | <b>7:00 PM-6:59 AM</b> | <b>Total</b>   |
|--------------|------------------------|------------------------|----------------|
| Monday       | 7.2 %                  | 6.2 %                  | 13.4 %         |
| Tuesday      | 6.8                    | 6.2                    | 13.0           |
| Wednesday    | 6.5                    | 6.1                    | 12.6           |
| Thursday     | 6.9                    | 6.2                    | 13.2           |
| Friday       | 6.9                    | 4.8                    | 11.7           |
| Saturday     | 10.4                   | 4.5                    | 14.9           |
| Sunday       | 13.5                   | 7.7                    | 21.2           |
| <b>Total</b> | <b>58.2 %</b>          | <b>41.8 %</b>          | <b>100.0 %</b> |

1/ Direct-dial calls carried by long distance carriers and local exchange carriers. Includes only interLATA calls.

Source: Calculated by IAD staff with data provided by TNS Telecoms (formerly PNR and Associates), *Telecoms Market Monit*

## 16 Revenues

Since 1993, all carriers with interstate revenues have been required to file an annual Telecommunications Relay Service (TRS) Fund Worksheet. Because revenues derived from providing access to the interstate network are considered to be interstate, virtually all carriers are required to file information. Starting in 1997, larger carriers were required to file universal service fund (USF) worksheets, which contain similar information but with breakouts for revenues from service provided for resale and for service provided to end users. For year ended 1999, the TRS and USF filing information were both combined on the Form 499-A, Telecommunications Reporting Worksheet. Also, reported on the Form 499-A are data pertaining to North American Numbering Planning Administration and local number portability programs.

Table 16.1 shows the major components of telecommunications revenues for 1999: carrier's carrier revenues and end-user revenues for local, wireless, and toll service. Table 16.2 shows how local, wireless, and toll revenues have changed over time. The table highlights how some significant changes in the revenue levels from 1996 to 1997 are due to major reporting changes. The number of carriers filing the Form 499-A for 1999 and for 1992 - 1998 those paying into the TRS fund by principal type of business are shown in Table 16.3. Table 16.4 contains revenues for 1992 - 1999 by type of carrier. Additional revenue detail can be found in the latest *Monitoring and Telecommunications Industry Revenues* reports.

The publication *Carrier Locator: Interstate Service Providers* lists 4,822 carriers that filed a Form 499-A worksheet in 2000. It also contains an address and contact telephone number for each carrier. (The 2000 worksheets contained data for 1999.)

Table 16.5 provides estimates of industry telephone revenues by state for 1995-1999. Table 16.5 also provides estimates for end-user and carrier's carrier revenues for 1999. Nationwide telephone revenues from *Telecommunications Industry Revenue: 1999* is allocated to each state using data from the *Statistics of Communications Common Carriers*, the *Statistical Abstract of the United States*, and from *Local Telephone Competition*.





**Table 16.1**  
**Telecommunications Industry Revenues: 1999 1/**  
**(Dollar Amounts Shown in Millions)**

|                                 | Carrier's<br>Carrier<br>Revenues 2/ | End-User<br>Revenues 2/ | Total<br>Revenues |
|---------------------------------|-------------------------------------|-------------------------|-------------------|
| Local Service                   | \$33,156                            | \$78,608                | \$111,764         |
| Wireless Service                | 4,652                               | 43,843                  | 48,495            |
| Toll Service                    | 14,934                              | 93,311                  | 108,246           |
| Total                           | 52,742                              | 215,763                 | 268,505           |
| Service Reported as:            |                                     |                         |                   |
| Intrastate                      | 22,293                              | 134,919                 | 157,212           |
| Interstate and International 3/ | 30,449                              | 80,844                  | 111,293           |
| Total                           | \$52,742                            | \$215,763               | \$268,505         |

Note: Detail may not add to totals due to rounding.

- 1/ Data include revenues for *de minimis* filers as well as for other carriers who are exempt from universal service contribution requirements.
- 2/ Carrier's carrier revenues are reported on the Form 499-A as sales to other universal service contributors for resale. This includes, for example, access services that local exchange carriers provide to toll carriers. Sales to *de minimis carriers*, customers, governments, non-profits, and any other non-contributors are treated as end-user revenues. Filers contribute to the universal service funding mechanisms based on their end-user revenues.
- 3/ Revenues from calls that both originate and terminate in foreign points are reported as end-user revenues, but are not included in the universal service contribution base.

Source: Industry Analysis Division, *Telecommunications Industry Revenues*.

**Table 16.2**  
**Telecommunications Revenues Reported by Type of Service**  
(Dollar Amounts Shown in Millions)

| Telecommunications Revenues                                | TRS Data         |                  |                  |                  |                  | Universal Service & TRS Data |                  | Form 499-A Data  |
|--|------------------|------------------|------------------|------------------|------------------|------------------------------|------------------|------------------|
|  | 1992             | 1993             | 1994             | 1995             | 1996             | 1997                         | 1998             | 1999             |
| Local Exchange   | \$39,235         | \$40,176         | \$42,245         | \$45,194         | \$48,717         | \$53,771                     | \$59,245         | \$62,840         |
| Pay Telephone 1/   |                  |                  |                  |                  |                  | 2,182                        | 2,536            | 2,218            |
| Local Private Line 2/                                      | 1,049            | 1,088            | 1,138            | 1,226            | 1,616            | 8,282                        | 10,403           | 12,914           |
| Other Local 3/   | 7,687            | 8,002            | 8,302            | 10,428           | 10,543           | 2,847                        | 2,179            | 4,601            |
| Subscriber Line Charges 2/                                 |                  |                  |                  |                  |                  | 8,327                        | 11,052           | 10,826           |
| Access 2/  | 29,353           | 30,832           | 32,759           | 33,911           | 35,641           | 21,423                       | 18,449           | 18,105           |
| Universal Service Surcharges on Local Service Bills 4/     |                  |                  |                  |                  |                  |                              | 103              | 260              |
| Additional Revenues from TRS Worksheets                    |                  |                  |                  |                  |                  | 595                          | 595              |                  |
| <b>Total Local Service Revenues</b>                        | <b>77,324</b>    | <b>80,098</b>    | <b>84,443</b>    | <b>90,759</b>    | <b>96,516</b>    | <b>97,426</b>                | <b>104,563</b>   | <b>111,764</b>   |
| Wireless Service   | 7,285            | 10,237           | 14,293           | 18,759           | 26,049           | 32,760                       | 36,240           | 48,117           |
| Universal Service Surcharges on Wireless Service Bills 4/  |                  |                  |                  |                  |                  |                              | 345              | 379              |
| Additional Revenues from TRS Worksheets                    |                  |                  |                  |                  |                  | 189                          | 189              |                  |
| <b>Total Wireless Service Revenues</b>                     | <b>7,285</b>     | <b>10,237</b>    | <b>14,293</b>    | <b>18,759</b>    | <b>26,049</b>    | <b>32,950</b>                | <b>36,775</b>    | <b>48,495</b>    |
| Operator 1/  | 9,465            | 10,772           | 10,539           | 11,170           | 10,975           | 12,002                       | 12,205           | 10,049           |
| Non-Operator Switched Toll                                 | 54,448           | 60,591           | 61,468           | 65,217           | 73,751           | 72,059                       | 74,168           | 78,389           |
| Long Distance Private Line                                 | 7,783            | 8,067            | 9,043            | 9,719            | 10,665           | 10,504                       | 11,952           | 13,169           |
| Other Long Distance  | 4,048            | 3,095            | 3,428            | 3,523            | 4,299            | 4,695                        | 3,386            | 3,656            |
| Universal Service Surcharges on Toll Service Bills 4/      |                  |                  |                  |                  |                  |                              | 1,810            | 2,983            |
| Additional Revenues from TRS Worksheets                    |                  |                  |                  |                  |                  | 1,532                        | 1,532            |                  |
| <b>Total Toll Service Revenues</b>                         | <b>75,744</b>    | <b>82,525</b>    | <b>84,478</b>    | <b>89,629</b>    | <b>99,691</b>    | <b>100,793</b>               | <b>105,055</b>   | <b>108,246</b>   |
| Non-Telecommunications Revenues Formerly Reported as Other |                  |                  |                  |                  |                  |                              |                  |                  |
| Local and Wireless Revenues 3/                             | (6,944)          | (7,518)          | (8,324)          | (9,071)          | (10,474)         |                              |                  |                  |
| <b>Total Telecommunications Revenues 3/</b>                | <b>153,409</b>   | <b>165,342</b>   | <b>174,890</b>   | <b>190,076</b>   | <b>211,782</b>   | <b>231,168</b>               | <b>246,392</b>   | <b>268,505</b>   |
| Non-Telecommunications Revenues 3/                         | 6,944            | 7,518            | 8,324            | 9,071            | 10,474           | 25,633                       | 27,944           | 33,144           |
| <b>Total Reported Revenues</b>                             | <b>160,353</b>   | <b>172,860</b>   | <b>183,214</b>   | <b>199,147</b>   | <b>222,256</b>   | <b>256,801</b>               | <b>272,019</b>   | <b>301,648</b>   |
| Service Reported as:                                       |                  |                  |                  |                  |                  |                              |                  |                  |
| Intrastate 3/  | 82,379           | 89,409           | 94,278           | 103,852          | 117,375          | 133,654                      | 142,108          | 157,212          |
| Interstate and International                               | 71,030           | 75,933           | 80,611           | 86,224           | 94,407           | 97,514                       | 104,284          | 111,293          |
| <b>Total Telecommunications Revenues 3/</b>                | <b>\$153,409</b> | <b>\$165,342</b> | <b>\$174,890</b> | <b>\$190,076</b> | <b>\$211,782</b> | <b>\$231,168</b>             | <b>\$246,392</b> | <b>\$268,505</b> |

Note: Some data for prior years have been revised. Detail may not add to totals due to rounding.

- 1/ TRS filers generally reported pay telephone revenues as local service revenues, access revenues, or operator toll revenues. The Universal Service and Form 499-A worksheets contain a separate category for payphone coin revenues. Starting in 1997, payphone revenues includes payphone compensation received from toll carriers.
- 2/ TRS Worksheet filers generally reported special access revenues as access revenues. Reporting changes implemented with the Universal Service Worksheet explain the increase in local private line revenues and the fall in access revenues shown for 1997. TRS Worksheet filers included subscriber line charges with other access charges. Universal Service Worksheet filers report subscriber line charges in a separate category. The increase from 1997 to 1998 represents PICCs levied by ILECs as well as \$1.2 billion of PICC pass-through charges levied by toll carriers.
- 3/ Significant amounts of enhanced service, billing and collection, CPE, and other non-telecommunications revenues were reported in the TRS mobile and other local service categories through 1996. Universal Service Worksheet filers report these revenues in the non-telecommunications category. For prior years, the amounts of non-telecommunications revenues reported as mobile and other local revenues were estimated as 70% of the amounts that Tier 1 ILECs reported in ARMIS as miscellaneous and nonregulated revenues (currently account 5200 + account 5280) and 10% of amounts reported as mobile service revenues. "Tier 1" refers to the largest ILECs, currently those with more than \$117 million in revenues.
- 4/ Charges on end-user bills identified as recovering state or federal universal service contributions are reported separately from local, wireless and toll revenues. Reported amounts are apportioned between local, wireless, and toll service based on the proportions of local, wireless, and toll intrastate and interstate revenues by type of carrier.

Sources: Data for 1992 through 1996 summarized from FCC Form 431 TRS worksheets. Data for 1997 and 1998 primarily based on FCC Form 457, Universal Service worksheets, with data from 1997 TRS worksheets used for service providers not required to file a Universal Service Worksheet. Data for 1999 summarized from FCC Form 499-A Telecommunications Reporting worksheets, which replaced both the Form 431 and the Form 457.

**Table 16.3**  
**Number of Interstate Telecommunications Providers**  
**By Principal Type of Business**

| Service Provider Category 1/  | 1992  | 1993  | 1994  | 1995  | 1996  | 1997  | 1998  | 1999  |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Incumbent Local Exchange Carriers (ILECs) 2/  |       | 1,281 | 1,347 | 1,347 | 1,376 | 1,410 | 1,348 | 1,335 |
| Competitive Access Providers (CAPs) and Competitive Local Exchange Carriers (CLECs)                     |       | 20    | 30    | 57    | 94    | 129   | 212   | 349   |
| Local Resellers   |       |       |       |       | 8     | 11    | 54    | 87    |
| Other Local Exchange Carriers   |       |       |       |       | 17    | 7     | 10    | 60    |
| Total: Competitors of ILECs   |       | 20    | 30    | 57    | 119   | 147   | 276   | 496   |
| Total: Fixed Local Service Providers  |       | 1,301 | 1,377 | 1,404 | 1,495 | 1,557 | 1,624 | 1,831 |
| Payphone Providers  |       | 163   | 197   | 271   | 533   | 509   | 615   | 758   |
| Wireless Telephony Including Cellular, Personal Communications Service (PCS) and SMR Telephony Carriers |       | 798   | 790   | 792   | 853   | 732   | 808   | 806   |
| Paging & Messaging Service  |       | 126   | 117   | 138   | 200   | 137   | 303   | 427   |
| Specialized Mobile Radio (SMR) Dispatch   |       |       |       |       | 163   | 99    | 119   | 212   |
| Wireless Data Service Providers   |       |       |       |       | 1     | 1     | 5     | 6     |
| Other Mobile Service Providers  |       |       |       |       |       |       | 23    | 44    |
| Total: Wireless Service Providers   |       | 924   | 907   | 930   | 1,217 | 969   | 1,235 | 1,495 |
| Interexchange Carriers (IXCs)   |       | 83    | 97    | 130   | 149   | 151   | 171   | 204   |
| Operator Service Providers (OSPs)   |       | 35    | 29    | 25    | 27    | 32    | 24    | 21    |
| Prepaid Calling Card Providers  |       |       |       | 8     | 16    | 18    | 20    | 21    |
| Satellite Service Carriers  |       |       |       |       | 22    | 13    | 13    | 21    |
| Toll Resellers  |       | 171   | 206   | 260   | 345   | 340   | 388   | 454   |
| Other Toll Carriers   |       | 32    | 34    | 30    | 28    | 15    | 31    | 17    |
| Total: Toll Service Providers   |       | 321   | 366   | 453   | 587   | 569   | 647   | 738   |
| All Filers  | 2,558 | 2,709 | 2,847 | 3,058 | 3,832 | 3,604 | 4,121 | 4,822 |

1/ Starting in 1993, filers have been asked to select for themselves a service provider category that best describes their operations. The choices have changed over the years; for example, most satellite service providers identified themselves as other toll carriers in their 1997 TRS worksheets because there was no separate category for satellite service providers.

2/ Fewer incumbent local exchange carriers filed in 1998 than in 1997 because of the consolidation of study areas.

Source: Industry Analysis Division, *Carrier Locator: Interstate Service Providers*.

**Table 16.4**  
**Gross Revenues Reported by Type of Carrier**  
**(Dollars Shown in Millions)**

| Service Provider Category 1/  | TRS Worksheet Data |           |           |           |           | Universal Service & TRS Data |           | Form 499-A Data |
|---|--------------------|-----------|-----------|-----------|-----------|------------------------------|-----------|-----------------|
|   | 1992               | 1993      | 1994      | 1995      | 1996      | 1997                         | 1998      | 1999            |
| Incumbent Local Exchange Carriers 2/<br>Competitive Access Providers (CAPs)<br>and Competitive Local Exchange Carriers (CLECs)  | \$91,584           | \$95,228  | \$98,431  | \$102,820 | \$107,905 | \$105,154                    | \$108,234 | \$112,216       |
| Local Resellers   | 69                 | 191       | 281       | 623       | 1,011     | 1,919                        | 3,348     | 5,652           |
| Other Local Exchange Carriers   |                    |           |           |           |           | 206                          | 410       | 511             |
| Private Carriers  |                    |           |           |           |           | 157                          | 36        | 171             |
| Shared-Tenant Service Providers   |                    |           |           |           |           | 112                          | 147       | 87              |
| Total: Competitors of ILECs   | 69                 | 191       | 281       | 623       | 1,011     | 2,481                        | 4,034     | 6,508           |
| Total: Fixed Local Service Providers  | 91,835             | 95,595    | 99,011    | 103,792   | 109,273   | 107,634                      | 112,268   | 118,725         |
| Total: Payphone Providers   | 183                | 175       | 300       | 349       | 357       | 933                          | 1,101     | 1,213           |
| Wireless Telephony Including Cellular,<br>Personal Communications Service<br>(PCS) and SMR Telephony Carriers 2/<br>Paging & Messaging Service 2/<br>Specialized Mobile Radio (SMR)<br>Dispatch | 6,718              | 9,215     | 13,259    | 17,208    | 23,778    | 29,944                       | 33,139    | 46,513          |
| Wireless Data Service Providers   |                    |           |           |           |           | 2,861                        | 3,161     | 3,232           |
| Other Mobile Service Providers  | 670                | 964       | 938       | 1,419     | 2,121     | 225                          | 731       | 159             |
| Total: Wireless Service Providers   | 7,387              | 10,179    | 14,197    | 18,627    | 25,900    | 33,030                       | 37,032    | 50,152          |
| Interexchange Carriers (IXCs)   | 57,341             | 61,118    | 66,381    | 70,938    | 79,057    | 79,080                       | 83,443    | 87,570          |
| Operator Service Providers (OSPs)   | 558                | 695       | 536       | 500       | 461       | 603                          | 590       | 337             |
| Prepaid Calling Card Providers  |                    |           |           | 16        | 238       | 519                          | 888       | 866             |
| Satellite Service Carriers  |                    |           |           |           |           | 1,011                        | 475       | 280             |
| Toll Resellers  | 1,293              | 1,869     | 2,840     | 4,220     | 6,564     | 8,010                        | 9,885     | 9,211           |
| Other Toll Carriers   | 2,186              | 711       | 709       | 773       | 577       | 348                          | 710       | 150             |
| Total: Toll Service Providers   | 61,378             | 64,393    | 70,466    | 76,447    | 86,896    | 89,570                       | 95,992    | 98,414          |
| Non-Telecommunications Revenues<br>in Prior Year Data 2/  | (6,944)            | (7,518)   | (8,324)   | (9,071)   | (10,474)  |                              |           |                 |
| Other Adjustments 3/  | (248)              | 2,693     | (461)     | 280       | 187       | 0                            | 0         | 0               |
| Total Telecommunications Revenues   | \$153,409          | \$165,342 | \$174,890 | \$190,076 | \$211,782 | \$231,168                    | \$246,392 | \$268,505       |

1/ Filers are asked to select for themselves a service provider category that best describes their operations. The choices have changed over the years. For example, most satellite service providers identified themselves as other toll carriers in their 1997 TRS worksheets because there was no separate category for satellite service providers.

2/ Significant amounts of enhanced services, billing and collection, CPE, and other non-telecommunications revenues were reported on TRS worksheets by incumbent local exchange carriers (ILECs) and wireless carriers through 1996. Universal Service Worksheet filers report these revenues in the non-telecommunications category. For prior years, the amounts of non-telecommunications revenues reported as mobile and other local revenues were estimated as 70% of the amounts that Tier 1 ILECs reported in ARMIS as miscellaneous and nonregulated revenues (currently account 5200 + account 5280) and 10% of amounts reported as mobile service revenues. "Tier 1" refers to the largest ILECs, currently those with more than \$117 million in revenues.

3/ Other adjustments include some amounts withheld to preserve confidentiality and revisions made after the initial publication of the data.

Source: Industry Analysis Division, *Telecommunications Industry Revenues*.

**Table 16.5**  
**Telephone Revenues by State**  
**(Revenue in Millions of Dollars)**

| State Name           | 1995             | 1996             | 1997             | 1998             | 1999              |                  |                  | Percent of Total | Percent Change 1995-1999 |
|----------------------|------------------|------------------|------------------|------------------|-------------------|------------------|------------------|------------------|--------------------------|
|                      | Total            | Total            | Total            | Total            | Carrier's Carrier | End User         | Total            |                  |                          |
| Alabama              | \$2,668          | \$2,946          | \$3,205          | \$3,394          | \$674             | \$3,037          | \$3,712          | 1.38 %           | 39.1 %                   |
| Alaska               | 464              | 518              | 561              | 590              | 130               | 534              | 664              | 0.25             | 43.2                     |
| Arizona              | 2,842            | 3,249            | 3,667            | 3,958            | 875               | 3,485            | 4,359            | 1.62             | 53.4                     |
| Arkansas             | 1,534            | 1,719            | 1,885            | 2,005            | 449               | 1,854            | 2,303            | 0.86             | 50.1                     |
| California           | 22,379           | 25,100           | 27,236           | 28,692           | 5,793             | 23,591           | 29,384           | 10.94            | 31.3                     |
| Colorado             | 3,128            | 3,526            | 4,006            | 4,260            | 909               | 3,917            | 4,826            | 1.80             | 54.3                     |
| Connecticut          | 2,765            | 2,943            | 3,266            | 3,173            | 616               | 2,789            | 3,405            | 1.27             | 23.1                     |
| Delaware             | 492              | 567              | 627              | 685              | 131               | 657              | 788              | 0.29             | 60.1                     |
| District of Columbia | 886              | 955              | 1,049            | 1,085            | 285               | 1,297            | 1,581            | 0.59             | 78.4                     |
| Florida              | 11,582           | 12,972           | 14,161           | 15,042           | 3,459             | 13,763           | 17,223           | 6.41             | 48.7                     |
| Georgia              | 5,335            | 6,004            | 6,849            | 7,469            | 1,597             | 6,882            | 8,479            | 3.16             | 58.9                     |
| Guam                 | NA               | 85               | 97               | 103              | 18                | 81               | 99               | 0.04             | NA                       |
| Hawaii               | 775              | 841              | 930              | 969              | 210               | 799              | 1,009            | 0.38             | 30.2                     |
| Idaho                | 791              | 908              | 967              | 1,010            | 240               | 852              | 1,092            | 0.41             | 38.0                     |
| Illinois             | 7,916            | 8,920            | 10,069           | 10,948           | 2,105             | 9,878            | 11,983           | 4.46             | 51.4                     |
| Indiana              | 3,804            | 4,192            | 4,536            | 4,810            | 1,061             | 4,037            | 5,099            | 1.90             | 34.0                     |
| Iowa                 | 1,888            | 2,039            | 2,163            | 2,268            | 520               | 1,921            | 2,441            | 0.91             | 29.3                     |
| Kansas               | 1,829            | 2,017            | 2,165            | 2,304            | 501               | 2,086            | 2,588            | 0.96             | 41.5                     |
| Kentucky             | 2,353            | 2,629            | 2,861            | 3,060            | 711               | 2,715            | 3,426            | 1.28             | 45.6                     |
| Louisiana            | 2,703            | 2,946            | 3,192            | 3,432            | 698               | 3,215            | 3,913            | 1.46             | 44.7                     |
| Maine                | 869              | 976              | 996              | 1,105            | 243               | 951              | 1,195            | 0.44             | 37.5                     |
| Maryland             | 3,767            | 4,234            | 4,625            | 4,911            | 917               | 4,259            | 5,176            | 1.93             | 37.4                     |
| Massachusetts        | 4,988            | 5,455            | 6,010            | 6,338            | 1,206             | 5,355            | 6,561            | 2.44             | 31.5                     |
| Michigan             | 6,444            | 7,246            | 7,983            | 8,523            | 1,721             | 7,809            | 9,530            | 3.55             | 47.9                     |
| Minnesota            | 3,064            | 3,461            | 3,864            | 4,115            | 950               | 3,667            | 4,617            | 1.72             | 50.7                     |
| Mississippi          | 1,584            | 1,734            | 1,877            | 2,017            | 395               | 1,888            | 2,283            | 0.85             | 44.1                     |
| Missouri             | 3,623            | 4,017            | 4,389            | 4,613            | 1,145             | 4,298            | 5,442            | 2.03             | 50.2                     |
| Montana              | 640              | 709              | 756              | 780              | 187               | 709              | 897              | 0.33             | 40.1                     |
| Nebraska             | 1,296            | 1,428            | 1,540            | 1,587            | 366               | 1,371            | 1,737            | 0.65             | 34.0                     |
| Nevada               | 1,099            | 1,324            | 1,489            | 1,592            | 338               | 1,547            | 1,884            | 0.70             | 71.5                     |
| New Hampshire        | 989              | 1,118            | 1,208            | 1,246            | 265               | 1,049            | 1,313            | 0.49             | 32.7                     |
| New Jersey           | 7,091            | 7,927            | 8,707            | 9,366            | 1,853             | 7,705            | 9,558            | 3.56             | 34.8                     |
| New Mexico           | 1,121            | 1,262            | 1,370            | 1,433            | 331               | 1,187            | 1,518            | 0.57             | 35.5                     |
| New York             | 14,983           | 16,026           | 17,120           | 17,935           | 3,860             | 15,840           | 19,700           | 7.34             | 31.5                     |
| North Carolina       | 5,394            | 6,104            | 6,613            | 7,297            | 1,639             | 6,367            | 8,006            | 2.98             | 48.4                     |
| North Dakota         | 481              | 587              | 596              | 599              | 143               | 517              | 660              | 0.25             | 37.1                     |
| N. Mariana Islands   | 15               | 18               | 21               | 30               | 6                 | 27               | 34               | 0.01             | 127.6                    |
| Ohio                 | 7,457            | 8,219            | 8,823            | 9,396            | 1,940             | 8,011            | 9,952            | 3.71             | 33.4                     |
| Oklahoma             | 1,996            | 2,179            | 2,410            | 2,552            | 486               | 2,241            | 2,727            | 1.02             | 36.6                     |
| Oregon               | 2,238            | 2,502            | 2,720            | 2,905            | 656               | 2,468            | 3,123            | 1.16             | 39.6                     |
| Pennsylvania         | 7,961            | 8,867            | 9,588            | 10,309           | 2,193             | 8,577            | 10,770           | 4.01             | 35.3                     |
| Puerto Rico          | 1,244            | 1,405            | 1,606            | 1,467            | 434               | 1,616            | 2,051            | 0.76             | 64.8                     |
| Rhode Island         | 686              | 761              | 839              | 859              | 172               | 774              | 946              | 0.35             | 38.0                     |
| South Carolina       | 2,653            | 2,849            | 3,053            | 3,393            | 720               | 3,070            | 3,790            | 1.41             | 42.9                     |
| South Dakota         | 488              | 584              | 602              | 635              | 154               | 562              | 716              | 0.27             | 46.6                     |
| Tennessee            | 3,467            | 3,880            | 4,302            | 4,553            | 884               | 4,044            | 4,928            | 1.84             | 42.2                     |
| Texas                | 12,871           | 14,563           | 15,943           | 17,576           | 4,095             | 14,937           | 19,032           | 7.09             | 47.9                     |
| Utah                 | 1,112            | 1,284            | 1,443            | 1,557            | 344               | 1,447            | 1,790            | 0.67             | 61.0                     |
| Vermont              | 424              | 547              | 575              | 602              | 140               | 544              | 684              | 0.25             | 61.2                     |
| Virgin Islands       | 74               | 93               | 101              | 109              | 26                | 96               | 122              | 0.05             | 48.3                     |
| Virginia             | 5,061            | 5,646            | 6,179            | 6,576            | 1,443             | 5,577            | 7,020            | 2.61             | 38.7                     |
| Washington           | 3,995            | 4,438            | 4,613            | 5,080            | 1,213             | 4,490            | 5,703            | 2.12             | 42.7                     |
| West Virginia        | 1,143            | 1,240            | 1,337            | 1,383            | 304               | 1,133            | 1,437            | 0.54             | 25.8                     |
| Wisconsin            | 3,258            | 3,621            | 3,927            | 4,234            | 883               | 3,837            | 4,719            | 1.76             | 44.9                     |
| Wyoming              | 366              | 402              | 449              | 462              | 109               | 404              | 513              | 0.19             | 40.3                     |
| <b>Grand Total</b>   | <b>\$190,076</b> | <b>\$211,782</b> | <b>\$231,168</b> | <b>\$246,392</b> | <b>\$52,743</b>   | <b>\$215,762</b> | <b>\$268,505</b> | <b>100.00 %</b>  | <b>41.3 %</b>            |

NA - Not Available.

Note: Figures may not add to totals due to rounding.

Source: Industry Analysis Division, *State-by-State Telephone Revenues and Universal Service Data*.

## 17 Subscribership

Under contract with the FCC, the Bureau of the Census includes questions on telephones as part of its Current Population Survey. This survey, which monitors demographic trends between the decennial censuses, has several strengths: it is conducted regularly by an expert agency, the sample is very large, and the questions are consistent. Thus, changes in the results can be compared over time with a great deal of confidence.

More than twenty million households have been added to the nation's telephone system since these surveys began in November 1983, reflecting both an increase in the total number of households and a small, but statistically significant, increase in the percentage of households that subscribe to telephone service.

Because of smaller sample sizes, state-by-state data are subject to greater sampling errors than the national data shown in Table 17.1. Consequently, the state-by-state data shown in Table 17.2 are based on annual average penetration rates. Additional information can be found in the *Telephone Penetration* and *Telephone Subscribership* reports available on the **FCC-State Link** web page.

Prior to 1980, historical estimates of telephone penetration were based on a comparison of the number of residential main stations to the number of households. These estimates became less reliable at that point because of the emergence of an increasing number of households with multiple phone lines. In the 1980 decennial census, the question "Do you have a telephone?" was added to the long-form questionnaire. The 1980 and 1990 percentages in Table 17.3 are based on those responses. With the telephone companies no longer owning the telephone instruments, however, it is possible for someone to have a telephone but not have service. This may account for some of the discrepancy between the 1990 percentages in Tables 17.1 and 17.3.

For other countries of the world, telephone development is often measured as the number of access lines per 100 people. This measure includes both residential and business lines. Historical estimates for the United States, using the decennial census population counts, are shown in Table 17.3.

The Bureau of the Census also includes questions on computers and Internet use as part of its Current Population Survey. Using this information, the National Telecommunications and Information Administration (NTIA) has released its third report examining which American households have access to telephones, computers, and the Internet, and which do not. Chart 17.1 shows the percent of households with a telephone, computer, and Internet use for 1994, 1997, 1998 and August 2000. The percent of households may differ from Table 17.1 since a different monthly survey was used. The NTIA report, *Falling Through the Net: Toward Digital Inclusion*, finds that the number of Americans connected to the nation's information infrastructure is soaring. According to the latest report by NTIA, the rapid swing to new technologies is happening with most groups of Americans, "regardless of income, education, race or ethnicity location, age or gender." Their conclusion is that "digital inclusion is a reasonable goal." NTIA's web site can be accessed at <[www.ntia.doc.gov](http://www.ntia.doc.gov)>.

**Table 17.1**  
**Household Telephone Subscribership in the United States**

|               | <b>Households<br/>(Millions)</b> | <b>Households<br/>with<br/>Telephones<br/>(Millions)</b> | <b>Percentage<br/>with<br/>Telephones</b> | <b>Households<br/>without<br/>Telephones<br/>(Millions)</b> | <b>Percentage<br/>without<br/>Telephones</b> |
|---------------|----------------------------------|--|---|---|--|
| 1983 November | 85.8                             | 78.4   | 91.4 %                                    | 7.4   | 8.6 %  |
| 1984 March    | 86.0                             | 78.9   | 91.8                                      | 7.1   | 8.2  |
| July          | 86.6                             | 79.3   | 91.6                                      | 7.3   | 8.4  |
| November      | 87.4                             | 79.9   | 91.4                                      | 7.5   | 8.6  |
| 1985 March    | 87.4                             | 80.2   | 91.8                                      | 7.2   | 8.2  |
| July          | 88.2                             | 81.0   | 91.8                                      | 7.2   | 8.2  |
| November      | 88.8                             | 81.6   | 91.9                                      | 7.2   | 8.1  |
| 1986 March    | 89.0                             | 82.1   | 92.2                                      | 6.9   | 7.8  |
| July          | 89.5                             | 82.5   | 92.2                                      | 7.0   | 7.8  |
| November      | 89.9                             | 83.1   | 92.4                                      | 6.8   | 7.6  |
| 1987 March    | 90.2                             | 83.4   | 92.5                                      | 6.8   | 7.5  |
| July          | 90.7                             | 83.7   | 92.3                                      | 7.0   | 7.7  |
| November      | 91.3                             | 84.3   | 92.3                                      | 7.0   | 7.7  |
| 1988 March    | 91.8                             | 85.3   | 92.9                                      | 6.5   | 7.1  |
| July          | 92.4                             | 85.7   | 92.8                                      | 6.7   | 7.2  |
| November      | 92.6                             | 85.7   | 92.5                                      | 6.9   | 7.5  |
| 1989 March    | 93.6                             | 87.0   | 93.0                                      | 6.6   | 7.0  |
| July          | 93.8                             | 87.5   | 93.3                                      | 6.3   | 6.7  |
| November      | 93.9                             | 87.3   | 93.0                                      | 6.6   | 7.0  |
| 1990 March    | 94.2                             | 87.9   | 93.3                                      | 6.3   | 6.7  |
| July          | 94.8                             | 88.4   | 93.3                                      | 6.4   | 6.7  |
| November      | 94.7                             | 88.4   | 93.3                                      | 6.3   | 6.7  |
| 1991 March    | 95.3                             | 89.2   | 93.6                                      | 6.1   | 6.4  |
| July          | 95.5                             | 89.1   | 93.3                                      | 6.4   | 6.7  |
| November      | 95.7                             | 89.4   | 93.4                                      | 6.3   | 6.6  |
| 1992 March    | 96.6                             | 90.7   | 93.9                                      | 5.9   | 6.1  |
| July          | 96.6                             | 90.6   | 93.8                                      | 6.0   | 6.2  |
| November      | 97.0                             | 91.0   | 93.8                                      | 6.0   | 6.2  |
| 1993 March    | 97.3                             | 91.6   | 94.2                                      | 5.7   | 5.8  |
| July          | 97.9                             | 92.2   | 94.2                                      | 5.7   | 5.8  |
| November      | 98.8                             | 93.0   | 94.2                                      | 5.8   | 5.8  |
| 1994 March    | 98.1                             | 92.1   | 93.9                                      | 6.0   | 6.1  |
| July          | 98.6                             | 92.4   | 93.7                                      | 6.2   | 6.3  |
| November      | 99.8                             | 93.7   | 93.8                                      | 6.2   | 6.2  |
| 1995 March    | 99.9                             | 93.8   | 93.9                                      | 6.1   | 6.1  |
| July          | 100.0                            | 94.0   | 94.0                                      | 6.0   | 6.0  |
| November      | 100.4                            | 94.2   | 93.9                                      | 6.2   | 6.1  |
| 1996 March    | 100.6                            | 94.4   | 93.8                                      | 6.2   | 6.2  |
| July          | 101.2                            | 95.0   | 93.9                                      | 6.1   | 6.1  |
| November      | 101.3                            | 95.1   | 93.9                                      | 6.2   | 6.1  |
| 1997 March    | 102.0                            | 95.8   | 93.9                                      | 6.2   | 6.1  |
| July          | 102.3                            | 96.1   | 93.9                                      | 6.2   | 6.1  |
| November      | 102.8                            | 96.5   | 93.8                                      | 6.3   | 6.2  |
| 1998 March    | 103.4                            | 97.4   | 94.1                                      | 6.1   | 5.9  |
| July          | 103.4                            | 97.3   | 94.1                                      | 6.1   | 5.9  |
| November      | 104.1                            | 98.0   | 94.2                                      | 6.1   | 5.8  |
| 1999 March    | 104.8                            | 98.5   | 94.0                                      | 6.3   | 6.0  |
| July          | 105.1                            | 99.2   | 94.4                                      | 5.9   | 5.6  |
| November      | 105.4                            | 99.1   | 94.1                                      | 6.3   | 5.9  |
| 2000 March    | 105.3                            | 99.6   | 94.6                                      | 5.7   | 5.4  |
| July          | 105.8                            | 99.8   | 94.4                                      | 5.9   | 5.6  |
| November      | 106.5                            | 100.2  | 94.1                                      | 6.3   | 5.9  |

Source: Industry Analysis Division, *Telephone Subscribership in the United States*.

**Table 17.2**  
**Telephone Penetration by State**  
**(Annual Average Percentage of Households with Telephone Service)**

| State                | 1984   | 2000   | Change  |
|----------------------|--------|--------|---------|
| Alabama              | 88.4 % | 91.9 % | 3.4 % * |
| Alaska               | 86.5   | 94.3   | 7.8 *   |
| Arizona              | 86.9   | 93.9   | 7.0 *   |
| Arkansas             | 86.6   | 88.6   | 2.0     |
| California           | 92.5   | 95.8   | 3.4 *   |
| Colorado             | 93.2   | 96.3   | 3.0 *   |
| Connecticut          | 95.5   | 96.4   | 0.9     |
| Delaware             | 94.3   | 96.3   | 2.0 *   |
| District of Columbia | 94.9   | 93.2   | -1.7    |
| Florida              | 88.7   | 92.1   | 3.4 *   |
| Georgia              | 86.2   | 91.1   | 4.9 *   |
| Hawaii               | 93.5   | 94.7   | 1.2     |
| Idaho                | 90.7   | 93.9   | 3.2 *   |
| Illinois             | 94.2   | 91.5   | -2.6 †  |
| Indiana              | 91.6   | 94.5   | 2.9 *   |
| Iowa                 | 96.2   | 96.2   | 0.0     |
| Kansas               | 94.3   | 94.8   | 0.5     |
| Kentucky             | 88.1   | 93.3   | 5.2 *   |
| Louisiana            | 89.7   | 92.6   | 2.9 *   |
| Maine                | 93.4   | 97.9   | 4.4 *   |
| Maryland             | 95.7   | 95.0   | -0.7    |
| Massachusetts        | 95.9   | 94.6   | -1.3 †  |
| Michigan             | 92.8   | 95.0   | 2.1 *   |
| Minnesota            | 95.8   | 97.4   | 1.6 *   |
| Mississippi          | 82.4   | 89.2   | 6.8 *   |
| Missouri             | 91.5   | 95.8   | 4.3 *   |
| Montana              | 91.0   | 94.6   | 3.6 *   |
| Nebraska             | 95.7   | 97.3   | 1.7 *   |
| Nevada               | 90.4   | 94.0   | 3.6 *   |
| New Hampshire        | 94.3   | 97.7   | 3.3 *   |
| New Jersey           | 94.8   | 94.6   | -0.2    |
| New Mexico           | 82.0   | 91.2   | 9.2 *   |
| New York             | 91.8   | 95.1   | 3.3 *   |
| North Carolina       | 88.3   | 93.9   | 5.6 *   |
| North Dakota         | 94.6   | 95.8   | 1.2 *   |
| Ohio                 | 92.4   | 94.8   | 2.4 *   |
| Oklahoma             | 90.3   | 91.2   | 0.9     |
| Oregon               | 90.6   | 94.8   | 4.2 *   |
| Pennsylvania         | 94.9   | 96.6   | 1.8 *   |
| Rhode Island         | 93.6   | 94.9   | 1.3     |
| South Carolina       | 83.7   | 93.2   | 9.5 *   |
| South Dakota         | 93.2   | 94.3   | 1.1     |
| Tennessee            | 88.5   | 95.5   | 7.0 *   |
| Texas                | 88.4   | 93.5   | 5.1 *   |
| Utah                 | 92.5   | 95.9   | 3.4 *   |
| Vermont              | 92.3   | 95.6   | 3.3 *   |
| Virginia             | 93.1   | 95.4   | 2.3 *   |
| Washington           | 93.0   | 94.9   | 1.9 *   |
| West Virginia        | 87.7   | 94.0   | 6.3 *   |
| Wisconsin            | 95.2   | 94.8   | -0.4    |
| Wyoming              | 89.9   | 94.7   | 4.9 *   |
| Total United States  | 91.6 % | 94.4 % | 2.8 % * |

Note: Changes may not be the same as calculated differences, due to rounding.

\* Increase is statistically significant at the 95% confidence level.

† Decrease is statistically significant at the 95% confidence level.

Source: Industry Analysis Division, *Telephone Subscribership in the United States*.

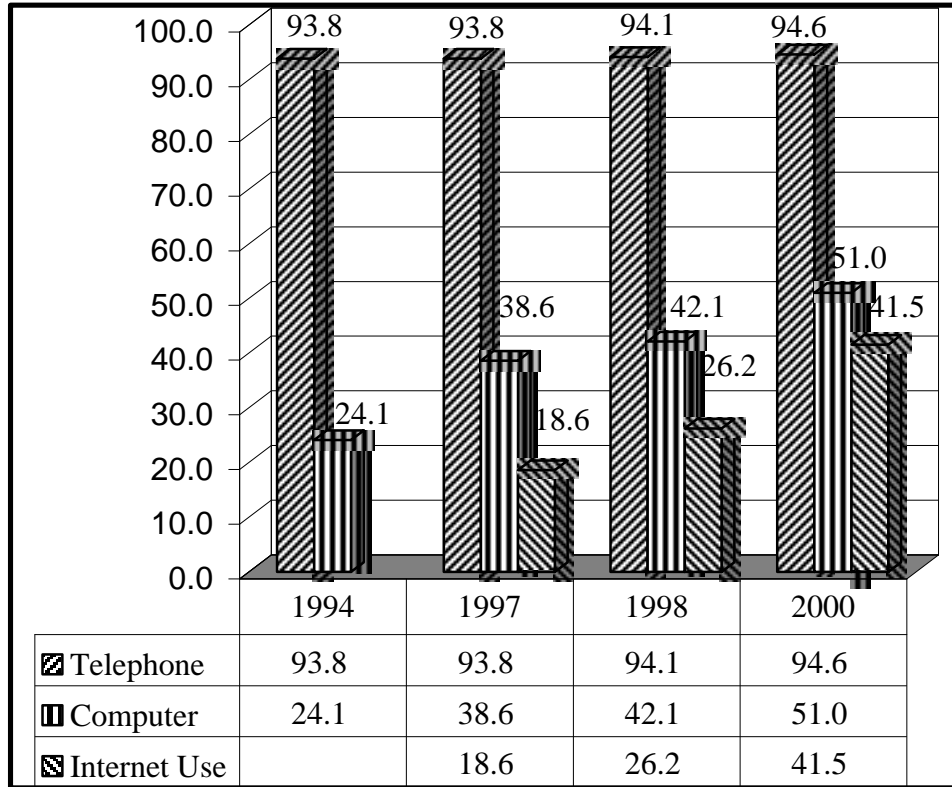


**Table 17.3**  
**Historical Telephone Penetration Estimates**

| Year | Percentage of<br>Households with<br>Telephones | Access Lines<br>per 100<br>Population |
|------|--|---------------------------------------|
| 1920 | 35.0 %   | 9.6                                   |
| 1930 | 40.9   | 12.5                                  |
| 1940 | 36.9   | 12.7                                  |
| 1950 | 61.8   | 21.7                                  |
| 1960 | 78.3   | 27.6                                  |
| 1970 | 90.5   | 35.0                                  |
| 1980 | 92.9   | 46.2                                  |
| 1990 | 94.8   | 54.8                                  |

Sources: FCC staff estimates based on data from the Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 2, page 783, for all percentage data except 1980 and 1990, which are from the decennial censuses. Access line data for 1920 through 1970 are estimated by multiplying the number of telephones by the proportion of main plus equivalent main stations to total telephones for the Bell System. Prior to 1950, the 1950 proportion is used. For 1980 and 1990, access lines reported by USTA are used.

**Chart 17.1**  
**Percent of U.S. Households with a Telephone, Computer, and**  
**Internet Use**



Source: National Telecommunications and Information Administration (NTIA) and U.S. Census Bureau, *Current Population Surveys*.

# 18 Technology Development

## 1. Central Office Technology

During the 1980s, telephone companies replaced most of their older electromechanical switches with computerized equipment. In the telephone industry, these computers are referred to as stored program control switches. Switches with the most current technologies are fully digital. That is, computers are used to switch calls and telephone conversations are converted to a digital form before being passed through the switch and later reconverted to their original analog form. Some offices are of an intermediate variety: the switching function is done by computer but the calls continue to be processed in their analog form. The spread of these technologies throughout the Bell operating companies (BOCs) is shown in Table 18.1.

Newer signaling systems have been developed which permit calls to be set up more quickly and efficiently. In the late 1980s, telephone company switching offices began to be converted to the newest signaling system, Signaling System 7. This was followed by an integrated systems digital network (ISDN). One of the attractions of ISDN is that ordinary local telephone lines (copper loops) can transport high-speed data between computers and handle more than one telephone conversation at a time. The number of BOCs switching offices and the lines served by offices with these features are shown in Table 18.2. Of course, not all of the lines served by ISDN-compatible switching offices are actually receiving ISDN service.

The newest service available, xDSL (digital subscriber loop) service, offers broadband digital capability using special terminal equipment that enhances the capability of existing copper access lines. Availability of ISDN services for Internet access along with the availability of xDSL services should tend to drive down the cost of ISDN services further.

## 2. Transmission Technology

The BOCs file data on technology as part of their ARMIS reports. (ARMIS is an acronym for the Automated Reporting Management Information System.) The data contained in Tables 18.1 - 18.3 are from the BOC's ARMIS 43-07 reports. The individual carrier's data can be obtained from the ARMIS web page at <[www.fcc.gov/ccb/armis/db](http://www.fcc.gov/ccb/armis/db)>. Selected holding company statistics from the ARMIS 43-07 can be found in our *Infrastructure* report on the **FCC-State Link** web page. Each telephone company has a network of transmission paths or carrier links tying together their switching offices. As indicated in Table 18.3, fiber optic cables have rapidly replaced copper to provide these links. From 1990 to 2000, the proportion of fiber has grown from 60% to 97%.

Although fiber technology was first used for interoffice transmission facilities, the technology is now being deployed closer to customers. The number of working channels provides an approximation of the number of transmission paths between customers and the telephone company offices serving those customers. Although the number of fiber channels nearly tripled during the first half of the 1990s, in 2000 copper wire still linked about 80% of customers to the first point of switching.

### 3. Equal Access

Equal access refers to a class of service whereby all long distance service providers receive equivalent connections to the local exchange carrier's network. Where a local exchange carrier serves customers using equal-access switches, those customers can utilize their preferred long distance provider by dialing "1" plus the ten-digit telephone number they want to reach.

For equal access to take place, the local exchange carrier had to convert its lines to equal access. The conversion of lines by local exchange carriers to equal access started in 1984. By the end of 1996, over 99% of the nation's lines had been converted to equal access. A table tracing this process through time can be found in the equal-access section in the *Trends* report released in July 1998.

Despite the fact that more than 99% of the nation's customers are now provided with equal access, there still are many central offices where equal access is not yet available. Because the non-equal-access offices tend to be smaller offices, the percentage of converted offices is significantly smaller than the percentage of converted lines. Table 18.4 shows the number of central office wire centers in each state that had been converted to equal access as of May 1, 2001. The table is derived from NECA's Tariff 4 database, which is updated by local exchange carriers. In some cases, there is a lag between an office converting to equal access and that change being reflected in the database. Thus, in some cases, the data continue to show some offices not yet converted to equal access even in states where equal access is reported to be available to all customers.

### 4. Telecommunications Patents

Another measure of developing technology is the number of U.S. patents. The U.S. Patent and Trademark Office maintains a file of over 6 million distinct U.S. patents granted. These patents are categorized by technology. Chart 18.1 shows the number of patents granted for telecommunications from 1990 to 2000. The information presented profiles U.S. patent activity in the general field of telecommunications. It includes all U.S. patent documents, excepting reissued patents, granted between January 1990 and December 31, 2000, which have been classified as follows:

Class 370, *Multiplex Communications*, is the generic class for multiplexing or duplexing systems, methods, or apparatus.

Class 375, *Pulse or Digital Communications*, is the generic class for pulse or digital communication systems using electrical or electromagnetic signals. Such communication includes transmitting an intelligence-bearing signal from one point to another in the form of discrete variations in some parameter of the electrical or electromagnetic signal.

Class 379, *Telephonic Communications*, includes systems, processes and instruments for the two-way electrical transmission of intelligible audio information having arbitrary content over a link including an electrical conductor, between spaced apart locations, so as to enable conversation therebetween, and intended for the private use of a listener or a group of listeners. Also included are switching, signaling or signal transmission systems, processes and instruments peculiar to, or specified as for a telephone or a telephone system.

Class 455, *Telecommunications*, is the generic class for modulated carrier wave communications.

Data for prior years differ from the March 2000 *Trends* report. Revisions to prior-year data reflect annual reclassification of patent categories. For example, if a patent type was reclassified in 1998, the data for prior years have been recalculated based on this reclassification.



**Table 18.1**  
**Central Offices and Access Lines by Technology**  
**(Bell Operating Companies)**

| <b>Year End</b>  | <b>Total Offices</b> | <b>Electromechanical Offices</b> |        | <b>Analog Stored Program Controlled Offices</b> |        | <b>Digital Stored Program Controlled Offices</b> |       |
|--|----------------------|----------------------------------|--------|---|--------|--|-------|
| 1980   | 9,195                | 6,842                            | 74.4 % | 2,353   | 25.6 % | 0  | 0.0 % |
| 1981   | 9,198                | 6,647                            | 72.3   | 2,527   | 27.5   | 24   | 0.3   |
| 1982   | 9,173                | 6,357                            | 69.3   | 2,736   | 29.8   | 80   | 0.9   |
| 1983   | 9,156                | 6,075                            | 66.3   | 2,910   | 31.8   | 171  | 1.9   |
| 1984   | 9,102                | 5,714                            | 62.8   | 3,041   | 33.4   | 347  | 3.8   |
| 1985   | 9,124                | 5,244                            | 57.5   | 3,020   | 33.1   | 860  | 9.4   |
| 1986   | 9,167                | 4,604                            | 50.2   | 2,943   | 32.1   | 1,620  | 17.7  |
| 1987   | 9,190                | 3,819                            | 41.6   | 2,833   | 30.8   | 2,538  | 27.6  |
| 1988   | 9,300                | 3,031                            | 32.6   | 2,692   | 28.9   | 3,577  | 38.5  |
| 1989   | 9,338                | 2,416                            | 25.9   | 2,519   | 27.0   | 4,403  | 47.2  |
| 1990   | 9,872                | 1,646                            | 16.7   | 2,410   | 24.4   | 5,816  | 58.9  |
| 1991   | 9,951                | 1,148                            | 11.5   | 2,167   | 21.8   | 6,636  | 66.7  |
| 1992   | 10,069               | 615                              | 6.1    | 1,924   | 19.1   | 7,530  | 74.8  |
| 1993   | 10,089               | 296                              | 2.9    | 1,554   | 15.4   | 8,239  | 81.7  |
| 1994   | 10,023               | 95                               | 0.9    | 1,133   | 11.3   | 8,795  | 87.7  |
| 1995   | 10,051               | 60                               | 0.6    | 976   | 9.7    | 9,015  | 89.7  |
| 1996   | 9,966                | 1                                | 0.0    | 718   | 7.2    | 9,247  | 92.8  |
| 1997   | 9,965                | 0                                | 0.0    | 548   | 5.5    | 9,417  | 94.5  |
| 1998   | 9,791                | 0                                | 0.0    | 431   | 4.4    | 9,360  | 95.6  |
| 1999 1/  | 9,968                | 0                                | 0.0    | 320   | 3.2    | 9,648  | 96.8  |
| 2000 2/  | 15,092               | 0                                | 0.0    | 203   | 1.3    | 14,889   | 98.7  |
| <b>Access Lines Served by Type of Office</b><br><b>(Thousands)</b> |                      |                                  |        |   |        |  |       |
| <b>Year End</b>  | <b>All Offices</b>   | <b>Electromechanical Offices</b> |        | <b>Analog Stored Program Controlled Offices</b> |        | <b>Digital Stored Program Controlled Offices</b> |       |
| 1980   | 81,032               | 44,930                           | 55.4 % | 36,092  | 44.5 % | 10   | 0.0 % |
| 1981   | 82,581               | 40,425                           | 49.0   | 42,099  | 51.0   | 57   | 0.1   |
| 1982   | 83,819               | 36,813                           | 43.9   | 46,803  | 55.8   | 203  | 0.2   |
| 1983   | 86,186               | 32,652                           | 37.9   | 52,919  | 61.4   | 615  | 0.7   |
| 1984   | 88,630               | 30,074                           | 33.9   | 56,404  | 63.6   | 2,151  | 2.4   |
| 1985   | 91,455               | 24,778                           | 27.1   | 58,532  | 64.0   | 8,145  | 8.9   |
| 1986   | 93,630               | 19,491                           | 20.8   | 59,252  | 63.3   | 14,886   | 15.9  |
| 1987   | 96,593               | 14,205                           | 14.7   | 59,442  | 61.5   | 22,946   | 23.8  |
| 1988   | 99,564               | 8,707                            | 8.7    | 60,364  | 60.6   | 30,493   | 30.6  |
| 1989   | 102,684              | 5,646                            | 5.5    | 58,846  | 57.3   | 38,192   | 37.2  |
| 1990   | 105,641              | 3,216                            | 3.0    | 56,973  | 53.9   | 45,452   | 43.0  |
| 1991   | 107,389              | 1,876                            | 1.7    | 53,450  | 49.8   | 52,062   | 48.5  |
| 1992   | 109,995              | 717                              | 0.7    | 48,959  | 44.5   | 60,324   | 54.8  |
| 1993   | 113,368              | 264                              | 0.2    | 41,912  | 37.0   | 71,192   | 62.8  |
| 1994   | 117,345              | 115                              | 0.1    | 33,191  | 28.3   | 84,040   | 71.6  |
| 1995   | 122,266              | 63                               | 0.1    | 29,031  | 23.7   | 93,172   | 76.2  |
| 1996   | 125,846              | 1                                | 0.0    | 24,561  | 19.5   | 101,283  | 80.5  |
| 1997   | 131,722              | 0                                | 0.0    | 21,219  | 16.1   | 110,503  | 83.9  |
| 1998   | 136,426              | 0                                | 0.0    | 16,688  | 12.2   | 119,738  | 87.8  |
| 1999 1/  | 141,763              | 0                                | 0.0    | 11,925  | 8.4    | 129,838  | 91.6  |
| 2000 2/  | 160,925              | 0                                | 0.0    | 7,317   | 4.5    | 153,609  | 95.5  |

Note: Because of different sources, the data for 1989 and earlier years may not be consistent with the data for 1990 and later years.

1/ Southern New England Telephone Company merged with SBC Communications October 26, 1998. Their data are included in this table starting with 1999.

2/ Large increase in 2000 due to the merger of Bell Atlantic and GTE.

Sources: 1980-1989 reported in CC Docket 89-624.

1990-2000 reported in ARMIS 43-07.

**Table 18.2**  
**Features Available in Central Offices**  
**(Bell Operating Companies)**

| <b>Year End</b>  | <b>Total Offices</b> | <b>Equal Access Offices</b> |       | <b>Signaling System 7 Offices 1/</b> |       | <b>ISDN Offices 2/</b> |       |
|--|----------------------|-----------------------------|-------|--------------------------------------|-------|------------------------|-------|
| 1980   | 9,195                | 0                           | 0.0 % | 0                                    | 0.0 % | 0                      | 0.0 % |
| 1981   | 9,198                | 0                           | 0.0   | 0                                    | 0.0   | 0                      | 0.0   |
| 1982   | 9,173                | 0                           | 0.0   | 0                                    | 0.0   | 0                      | 0.0   |
| 1983   | 9,156                | 0                           | 0.0   | 0                                    | 0.0   | 0                      | 0.0   |
| 1984   | 9,102                | 124                         | 1.4   | 0                                    | 0.0   | 0                      | 0.0   |
| 1985   | 9,124                | 1,891                       | 20.7  | 0                                    | 0.0   | 0                      | 0.0   |
| 1986   | 9,167                | 3,623                       | 39.5  | 0                                    | 0.0   | 0                      | 0.0   |
| 1987   | 9,190                | 4,823                       | 52.5  | 29                                   | 0.3   | 4                      | 0.0   |
| 1988   | 9,300                | 6,071                       | 65.3  | 435                                  | 4.7   | 82                     | 0.9   |
| 1989   | 9,338                | 6,788                       | 72.7  | 931                                  | 10.0  | 179                    | 1.9   |
| 1990   | 9,872                | 7,950                       | 80.5  | 2,428                                | 24.6  | 600                    | 6.1   |
| 1991   | 9,951                | 8,601                       | 86.4  | 3,670                                | 36.9  | 920                    | 9.2   |
| 1992   | 10,069               | 9,281                       | 92.2  | 5,392                                | 53.6  | 1,219                  | 12.1  |
| 1993   | 10,089               | 9,697                       | 96.1  | 6,688                                | 66.3  | 1,874                  | 18.6  |
| 1994   | 10,023               | 9,933                       | 99.1  | 8,334                                | 83.1  | 2,400                  | 23.9  |
| 1995   | 10,051               | 9,978                       | 99.3  | 8,977                                | 89.3  | 2,868                  | 28.5  |
| 1996   | 9,966                | 9,845                       | 98.8  | 9,286                                | 93.2  | 3,329                  | 33.4  |
| 1997   | 9,965                | 9,936                       | 99.7  | 9,688                                | 97.2  | 3,902                  | 39.2  |
| 1998   | 9,791                | 9,768                       | 99.8  | 9,646                                | 98.5  | 4,146                  | 42.3  |
| 1999 3/  | 9,968                | 9,864                       | 99.0  | 9,844                                | 98.8  | 4,426                  | 44.4  |
| 2000 4/  | 15,092               | 15,053                      | 99.7  | 14,837                               | 98.3  | 5,415                  | 35.9  |
| <b>Equipped Access Lines by Type of Office</b><br><b>(Thousands)</b> |                      |                             |       |                                      |       |                        |       |
| <b>Year End</b>  | <b>All Offices</b>   | <b>Equal Access Offices</b> |       | <b>Signaling System 7 Offices 1/</b> |       | <b>ISDN Offices 2/</b> |       |
| 1980   | 81,032               | 0                           | 0.0 % | 0                                    | 0.0 % | 0                      | 0.0 % |
| 1981   | 82,581               | 0                           | 0.0   | 0                                    | 0.0   | 0                      | 0.0   |
| 1982   | 83,819               | 0                           | 0.0   | 0                                    | 0.0   | 0                      | 0.0   |
| 1983   | 86,186               | 146                         | 0.2   | 0                                    | 0.0   | 0                      | 0.0   |
| 1984   | 88,630               | 9,350                       | 10.5  | 0                                    | 0.0   | 0                      | 0.0   |
| 1985   | 91,455               | 49,241                      | 53.8  | 0                                    | 0.0   | 0                      | 0.0   |
| 1986   | 93,630               | 70,543                      | 75.3  | 0                                    | 0.0   | 0                      | 0.0   |
| 1987   | 96,593               | 81,743                      | 84.6  | 1,035                                | 1.1   | 12                     | 0.0   |
| 1988   | 99,564               | 91,809                      | 92.2  | 10,325                               | 10.4  | 47                     | 0.0   |
| 1989   | 102,684              | 97,410                      | 94.9  | 21,917                               | 21.3  | 111                    | 0.1   |
| 1990   | 105,641              | 102,429                     | 97.0  | 40,026                               | 37.9  | 13,970                 | 13.2  |
| 1991   | 107,389              | 105,415                     | 98.2  | 57,322                               | 53.4  | 20,565                 | 19.2  |
| 1992   | 109,995              | 109,007                     | 99.1  | 76,486                               | 69.5  | 28,376                 | 25.8  |
| 1993   | 113,368              | 112,993                     | 99.7  | 92,493                               | 81.6  | 39,875                 | 35.2  |
| 1994   | 117,345              | 117,266                     | 99.9  | 109,465                              | 93.3  | 56,546                 | 48.2  |
| 1995   | 122,266              | 122,210                     | 100.0 | 116,568                              | 95.3  | 71,274                 | 58.3  |
| 1996   | 125,846              | 125,845                     | 100.0 | 122,344                              | 97.2  | 85,435                 | 67.9  |
| 1997   | 131,722              | 131,722                     | 100.0 | 130,778                              | 99.3  | 95,956                 | 72.8  |
| 1998   | 136,426              | 136,426                     | 100.0 | 135,981                              | 99.7  | 106,834                | 78.3  |
| 1999 3/  | 141,763              | 141,763                     | 100.0 | 141,685                              | 99.9  | 113,999                | 80.4  |
| 2000 4/  | 160,925              | 160,925                     | 100.0 | 160,608                              | 99.8  | 132,848                | 82.6  |

Note: Because of different sources, the data for 1989 and earlier years may not be entirely consistent with the data for 1990 and later years.

1/ Signaling System 7 Switch (SS7-317).

2/ ISDN basic access line capacity reported for 1990-2000.

3/ Southern New England Telephone Company merged with SBC Communications October 26, 1998. Their data are included in this table starting with 1999.

4/ Large increase in 2000 due to the merger of Bell Atlantic and GTE.

Sources: 1980-1989 reported in CC Docket 89-624.

1990-2000 reported in ARMIS 43-07.



**Table 18.3****Local Transmission Technology  
(Bell Operating Companies)****Digital Transmission Links**

| <b>Year End</b> | <b>Total</b> | <b>Copper</b> |        | <b>Fiber</b> |        | <b>Radio</b> |       |
|-----------------|--------------|---------------|--------|--------------|--------|--------------|-------|
| 1990 1/         | 2,895,117    | 1,092,041     | 37.7 % | 1,737,984    | 60.0 % | 65,092       | 2.2 % |
| 1991            | 3,271,023    | 1,039,316     | 31.8   | 2,154,043    | 65.9   | 77,664       | 2.4   |
| 1992            | 3,564,847    | 864,931       | 24.3   | 2,610,185    | 73.2   | 89,731       | 2.5   |
| 1993            | 4,159,574    | 805,290       | 19.4   | 3,264,106    | 78.5   | 90,175       | 2.2   |
| 1994            | 4,495,728    | 568,197       | 12.6   | 3,846,394    | 85.6   | 81,137       | 1.8   |
| 1995            | 5,828,645    | 485,909       | 8.3    | 5,274,173    | 90.5   | 68,563       | 1.2   |
| 1996            | 7,955,574    | 433,758       | 5.5    | 7,477,395    | 94.0   | 44,421       | 0.6   |
| 1997            | 10,067,498   | 413,204       | 4.1    | 9,610,601    | 95.5   | 43,693       | 0.4   |
| 1998            | 13,558,832   | 420,488       | 3.1    | 13,099,829   | 96.6   | 38,515       | 0.3   |
| 1999            | 17,662,105   | 518,331       | 2.9    | 17,104,970   | 96.8   | 38,804       | 0.2   |
| 2000 2/         | 24,334,009   | 771,385       | 3.2    | 23,523,610   | 96.7   | 39,014       | 0.2   |

1/ 1990 contains some analog links.

2/ Large increase in 2000 due to the merger of Bell Atlantic and GTE.

**Working Telecommunications Channels  
(Thousands)**

| <b>Year End</b> | <b>Total</b> | <b>Copper</b> |        | <b>Fiber</b> |       | <b>Radio</b> |       |
|-----------------|--------------|---------------|--------|--------------|-------|--------------|-------|
| 1990            | 122,564 1/   | 106,373       | 86.8 % | 3,546        | 2.9 % | 0            | 0.0 % |
| 1991            | 118,654      | 114,047       | 96.1   | 4,605        | 3.9   | 2            | 0.0   |
| 1992            | 120,848      | 114,609       | 94.8   | 6,238        | 5.2   | 1            | 0.0   |
| 1993            | 124,191      | 115,496       | 93.0   | 8,694        | 7.0   | 1            | 0.0   |
| 1994            | 130,192      | 118,437       | 91.0   | 11,754       | 9.0   | 0            | 0.0   |
| 1995            | 136,231      | 122,975       | 90.3   | 13,255       | 9.7   | 0            | 0.0   |
| 1996            | 142,824      | 125,595       | 87.9   | 17,228       | 12.1  | 1            | 0.0   |
| 1997            | 149,429      | 128,436       | 86.0   | 20,992       | 14.0  | 0            | 0.0   |
| 1998            | 160,621      | 131,867       | 82.1   | 28,753       | 17.9  | 0            | 0.0   |
| 1999 2/         | 171,079      | 135,569       | 79.2   | 35,510       | 20.8  | 0            | 0.0   |
| 2000 3/         | 196,414      | 153,624       | 78.2   | 42,575       | 21.7  | 215          | 0.1   |

1/ Includes some other channels.

2/ Southern New England Telephone Company merged with SBC Communications October 26, 1998. Their data are included in this table starting with 1999.

3/ Large increase in 2000 due to the merger of Bell Atlantic and GTE.

Source: ARMIS 43-07 report.

**Table 18.4**  
**Central Offices Converted to Equal Access 1/**  
**(As of August 1, 2000)**

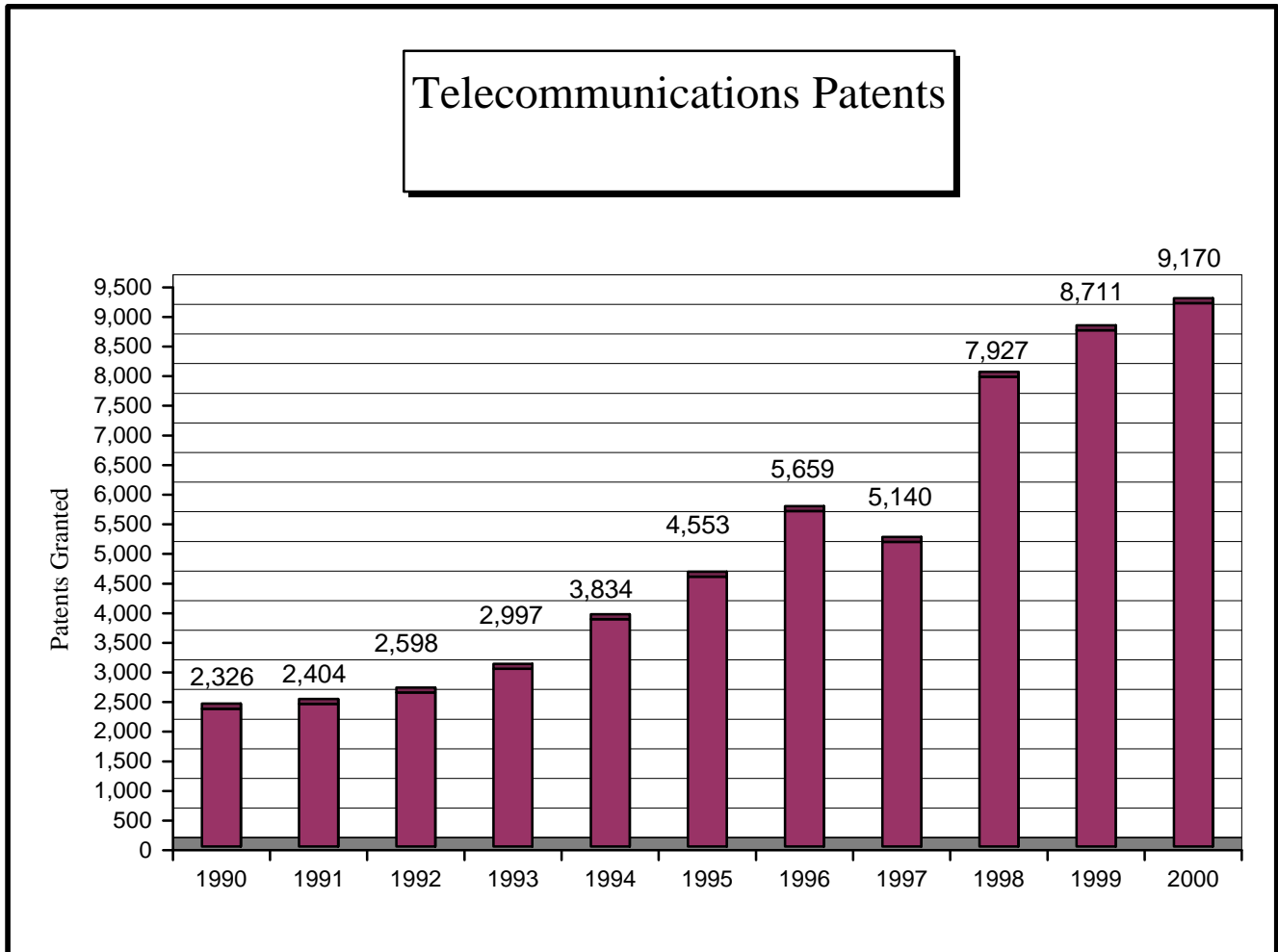
|                            | ILEC<br>Central Offices |                     |                   | CLEC<br>Central Offices |                     |                   | All<br>Central Offices |                   |
|----------------------------|-------------------------|---------------------|-------------------|-------------------------|---------------------|-------------------|------------------------|-------------------|
|                            | Equal<br>Access         | Non-Equal<br>Access | % Equal<br>Access | Equal<br>Access         | Non-Equal<br>Access | % Equal<br>Access | Total<br>Offices       | % Equal<br>Access |
| Alabama                    | 358                     | 4                   | 98.9 %            | 34                      | 6                   | 85.0 %            | 402                    | 97.5 %            |
| Alaska                     | 53                      | 201                 | 20.9              | 0                       | 0                   | NA                | 254                    | 20.9              |
| Arizona                    | 239                     | 9                   | 96.4              | 23                      | 4                   | 85.2              | 275                    | 95.3              |
| Arkansas                   | 405                     | 2                   | 99.5              | 25                      | 2                   | 92.6              | 434                    | 99.1              |
| California                 | 992                     | 18                  | 98.2              | 320                     | 35                  | 90.1              | 1,365                  | 96.1              |
| Colorado                   | 276                     | 9                   | 96.8              | 27                      | 4                   | 87.1              | 316                    | 95.9              |
| Connecticut                | 130                     | 0                   | 100.0             | 22                      | 2                   | 91.7              | 154                    | 98.7              |
| Delaware                   | 33                      | 0                   | 100.0             | 3                       | 2                   | 60.0              | 38                     | 94.7              |
| District of Columbia       | 19                      | 0                   | 100.0             | 22                      | 2                   | 91.7              | 43                     | 95.3              |
| Florida                    | 475                     | 2                   | 99.6              | 236                     | 18                  | 92.9              | 731                    | 97.3              |
| Georgia                    | 417                     | 10                  | 97.7              | 103                     | 12                  | 89.6              | 542                    | 95.9              |
| Guam                       | 18                      | 0                   | 100.0             | 0                       | 0                   | NA                | 18                     | 100.0             |
| Hawaii                     | 93                      | 0                   | 100.0             | 1                       | 0                   | 100.0             | 94                     | 100.0             |
| Idaho                      | 171                     | 15                  | 91.9              | 8                       | 1                   | 88.9              | 195                    | 91.8              |
| Illinois                   | 1,007                   | 26                  | 97.5              | 86                      | 13                  | 86.9              | 1,132                  | 96.6              |
| Indiana                    | 574                     | 2                   | 99.7              | 35                      | 10                  | 77.8              | 621                    | 98.1              |
| Iowa                       | 807                     | 3                   | 99.6              | 32                      | 7                   | 82.1              | 849                    | 98.8              |
| Kansas                     | 561                     | 9                   | 98.4              | 15                      | 5                   | 75.0              | 590                    | 97.6              |
| Kentucky                   | 375                     | 18                  | 95.4              | 13                      | 7                   | 65.0              | 413                    | 93.9              |
| Louisiana                  | 328                     | 2                   | 99.4              | 36                      | 4                   | 90.0              | 370                    | 98.4              |
| Maine                      | 248                     | 10                  | 96.1              | 6                       | 1                   | 85.7              | 265                    | 95.8              |
| Maryland                   | 213                     | 0                   | 100.0             | 37                      | 5                   | 88.1              | 255                    | 98.0              |
| Massachusetts              | 277                     | 2                   | 99.3              | 63                      | 5                   | 92.6              | 347                    | 98.0              |
| Michigan                   | 695                     | 17                  | 97.6              | 37                      | 7                   | 84.1              | 756                    | 96.8              |
| Minnesota                  | 707                     | 4                   | 99.4              | 90                      | 10                  | 90.0              | 811                    | 98.3              |
| Mississippi                | 260                     | 8                   | 97.0              | 15                      | 4                   | 78.9              | 287                    | 95.8              |
| Missouri                   | 650                     | 48                  | 93.1              | 53                      | 9                   | 85.5              | 760                    | 92.5              |
| Montana                    | 274                     | 1                   | 99.6              | 15                      | 4                   | 78.9              | 294                    | 98.3              |
| Nebraska                   | 460                     | 4                   | 99.1              | 11                      | 4                   | 73.3              | 479                    | 98.3              |
| Nevada                     | 103                     | 15                  | 87.3              | 25                      | 2                   | 92.6              | 145                    | 88.3              |
| New Hampshire              | 152                     | 2                   | 98.7              | 15                      | 1                   | 93.8              | 170                    | 98.2              |
| New Jersey                 | 234                     | 0                   | 100.0             | 42                      | 8                   | 84.0              | 284                    | 97.2              |
| New Mexico                 | 148                     | 39                  | 79.1              | 3                       | 1                   | 75.0              | 191                    | 79.1              |
| New York                   | 824                     | 16                  | 98.1              | 95                      | 16                  | 85.6              | 951                    | 96.6              |
| North Carolina             | 493                     | 12                  | 97.6              | 67                      | 15                  | 81.7              | 587                    | 95.4              |
| North Dakota               | 270                     | 20                  | 93.1              | 12                      | 3                   | 80.0              | 305                    | 92.5              |
| Ohio                       | 814                     | 39                  | 95.4              | 80                      | 9                   | 89.9              | 942                    | 94.9              |
| Oklahoma                   | 502                     | 23                  | 95.6              | 20                      | 2                   | 90.9              | 547                    | 95.4              |
| Oregon                     | 282                     | 5                   | 98.3              | 22                      | 4                   | 84.6              | 313                    | 97.1              |
| Pennsylvania               | 806                     | 32                  | 96.2              | 99                      | 13                  | 88.4              | 950                    | 95.3              |
| Puerto Rico                | 86                      | 0                   | 100.0             | 1                       | 0                   | 100.0             | 87                     | 100.0             |
| Rhode Island               | 30                      | 0                   | 100.0             | 5                       | 1                   | 83.3              | 36                     | 97.2              |
| South Carolina             | 276                     | 2                   | 99.3              | 17                      | 5                   | 77.3              | 300                    | 97.7              |
| South Dakota               | 245                     | 9                   | 96.5              | 5                       | 2                   | 71.4              | 261                    | 95.8              |
| Tennessee                  | 355                     | 9                   | 97.5              | 38                      | 4                   | 90.5              | 406                    | 96.8              |
| Texas                      | 1,483                   | 26                  | 98.3              | 583                     | 26                  | 95.7              | 2,118                  | 97.5              |
| Utah                       | 147                     | 18                  | 89.1              | 9                       | 4                   | 69.2              | 178                    | 87.6              |
| Vermont                    | 132                     | 2                   | 98.5              | 2                       | 0                   | 100.0             | 136                    | 98.5              |
| Virgin Islands             | 5                       | 0                   | 100.0             | 0                       | 0                   | NA                | 5                      | 100.0             |
| Virginia                   | 461                     | 7                   | 98.5              | 49                      | 10                  | 83.1              | 527                    | 96.8              |
| Washington                 | 359                     | 8                   | 97.8              | 58                      | 5                   | 92.1              | 430                    | 97.0              |
| West Virginia              | 228                     | 6                   | 97.4              | 6                       | 2                   | 75.0              | 242                    | 96.7              |
| Wisconsin                  | 635                     | 5                   | 99.2              | 46                      | 6                   | 88.5              | 692                    | 98.4              |
| Wyoming                    | 63                      | 23                  | 73.3              | 2                       | 2                   | 50.0              | 90                     | 72.2              |
| <b>Total United States</b> | <b>20,248</b>           | <b>742</b>          | <b>96.5 %</b>     | <b>2,669</b>            | <b>324</b>          | <b>89.2 %</b>     | <b>23,983</b>          | <b>95.6 %</b>     |

NA - Not Applicable.

1/ Some companies do not report information on their remote switches in Tariff No. 4. As a result, central office counts may be lower than reported in other sources.

Source: NECA FCC Tariff No. 4 database.

**Chart 18.1**



Note: 1996 total reflects one-time change in law affecting patents.

Source: U.S. Patent and Trademark Office, *Technology Profile Report - Telecommunications, Classes 370, 375, 379 and 455.*

## 19 Telephone Numbers

In 1994, many area codes were nearing exhaustion as demand for telephone numbers continued to rise. Adding new area codes was difficult because some older telephone equipment was designed to recognize only area codes with a middle digit of 0 or 1, and the supply of those area codes was dwindling. On January 1, 1995, the restriction on the middle digit was removed, and 640 new area codes were made available. During 1995, fourteen new area codes were assigned -- the largest single-year expansion of area codes in decades. Nineteen area codes were added in 1996, forty-three in 1997, twenty in 1998, twenty-four codes in 1999, thirteen in 2000, and sixteen codes have been added in 2001. The above counts of area code activation are for the contiguous United States, offshore points, Canada, and the Caribbean. The changes in area codes from 1984 to 2001 are shown in Table 19.1. Area codes are assigned by the North American Numbering Plan Administration (NANPA), which is part of Neustar, Inc.

Toll-free service was first introduced in 1967 by AT&T. On May 1, 1993, procedures for routing toll-free (800) calls were changed and 800 numbers were made "portable." The new system enables customers to change service providers while still retaining the same 800 number. There has been tremendous growth in the toll-free market. The growth of toll-free telephone numbers is shown in Table 19.2. In March 1996, a second toll-free calling code -- 888 -- was placed in service; the third toll-free calling code -- 877 -- went into effect April 4, 1998; and the fourth toll-free calling code -- 866 -- went into effect July 29, 2000. The next toll-free code scheduled for service is 855, which was scheduled for November 18, 2000, but has been delayed. Database Service Management, Inc., a subsidiary of Telcordia Technologies, Inc., maintains the database on toll-free numbers.

Dialing patterns differ from state to state. For instance, in some states, callers making local calls within an area code are required to only dial the 7-digit phone number. In other states, callers making local calls must dial the ten-digit phone number (area code plus the phone number). Finally, in some states, local callers must dial a "1" before dialing the area code plus the phone number. Each state's public utilities commission (or public service commission) determines the calling pattern for each area code in their state. The dialing pattern for area codes are listed in area code planning letters, which are available on the North American Numbering Plan Administrator's web site at [www.nanpa.com](http://www.nanpa.com).

For both local and domestic toll calls, there are two basic types of calls: those within an area code and those between area codes. Table 19.3 shows the dialing patterns for all four types of calls. The last column of Table 19.3 indicates whether all toll calls in that state require callers to dial a "1" before the telephone number.



**Table 19.1**  
**Area Code Assignments**  
**(1984-2001)**

| Location            | Date  | Previous Code | Added Code |
|---------------------|-------|---------------|------------|
| California          | 1/84  | 213           | 818        |
| New York            | 9/84  | 212           | 718        |
| Colorado            | 3/88  | 303           | 719        |
| Florida             | 4/88  | 305           | 407        |
| Massachusetts       | 7/88  | 617           | 508        |
| Illinois            | 11/89 | 312           | 708        |
| New Jersey          | 11/90 | 201           | 908        |
| Texas               | 11/90 | 214           | 903        |
| California          | 9/91  | 415           | 510        |
| Maryland            | 10/91 | 301           | 410        |
| California          | 11/91 | 213           | 310        |
| New York            | 1/92  | 212           | 917        |
| New York            | 1/92  | 718           | 917        |
| Georgia             | 5/92  | 404           | 706        |
| New York            | 7/92  | 212           | 718        |
| Texas               | 11/92 | 512           | 210        |
| California          | 11/92 | 714           | 909        |
| Ontario             | 10/93 | 416           | 905        |
| North Carolina      | 11/93 | 919           | 910        |
| Michigan            | 12/93 | 313           | 810        |
| Pennsylvania        | 1/94  | 215           | 610        |
| Alabama             | 1/95  | 205           | 334        |
| Washington          | 1/95  | 206           | 360        |
| Arizona             | 3/95  | 602           | 520        |
| Colorado            | 4/95  | 303           | 970        |
| Florida (Tampa)     | 5/95  | 813           | 941        |
| Virginia            | 7/95  | 703           | 540        |
| Georgia (Atlanta)   | 8/95  | 404           | 770        |
| Connecticut         | 8/95  | 203           | 860        |
| Florida (Miami)     | 9/95  | 305           | 954        |
| Tennessee           | 9/95  | 615           | 423        |
| Bermuda             | 10/95 | 809           | 441        |
| Oregon              | 11/95 | 503           | 541        |
| South Carolina      | 12/95 | 803           | 864        |
| Florida (North)     | 12/95 | 904           | 352        |
| Missouri            | 1/96  | 314           | 573        |
| Illinois (Chicago)  | 1/96  | 708           | 847        |
| Puerto Rico         | 3/96  | 809           | 787        |
| Ohio                | 3/96  | 216           | 330        |
| Minnesota           | 3/96  | 612           | 320        |
| Antigua             | 4/96  | 809           | 268        |
| Florida (Southeast) | 5/96  | 407           | 561        |
| Barbados            | 7/96  | 809           | 246        |
| St. Lucia           | 7/96  | 809           | 758        |
| Virginia            | 7/96  | 804           | 757        |

**Table 19.1**  
**Area Code Assignments -- Continued**  
**(1984-2001)**

| Location  | Date  | Previous Code | Added Code |
|---|-------|---------------|------------|
| Montserrat                                      | 7/96  | 809           | 664        |
| Illinois (Chicago)                              | 8/96  | 708           | 630        |
| Cayman Islands                                  | 9/96  | 809           | 345        |
| Texas (Dallas)                                  | 9/96  | 214           | 972        |
| Ohio  | 9/96  | 513           | 937        |
| Bahamas   | 10/96 | 809           | 242        |
| St. Kitts & Nevis                               | 10/96 | 809           | 869        |
| Illinois  | 10/96 | 312           | 773        |
| British Columbia                                | 10/96 | 604           | 250        |
| Texas (Houston)                                 | 11/96 | 713           | 281        |
| California (Southern)                           | 1/97  | 310           | 562        |
| Indiana   | 2/97  | 317           | 765        |
| California                                      | 3/97  | 619           | 760        |
| Anguilla  | 3/97  | 809           | 264        |
| Arkansas  | 4/97  | 501           | 870        |
| Washington State                                | 4/97  | 206           | 253        |
| Washington State                                | 4/97  | 206           | 425        |
| Jamaica   | 5/97  | 809           | 876        |
| Michigan  | 5/97  | 810           | 248        |
| Texas   | 5/97  | 817           | 254        |
| Texas   | 5/97  | 817           | 940        |
| Turks & Caicos                                  | 6/97  | 809           | 649        |
| Trinidad/Tobago                                 | 6/97  | 809           | 868        |
| Maryland  | 6/97  | 301           | 240        |
| Maryland  | 6/97  | 410           | 443        |
| New Jersey                                      | 6/97  | 201           | 973        |
| New Jersey                                      | 6/97  | 908           | 732        |
| U.S. Virgin Islands                             | 6/97  | 809           | 340        |
| California                                      | 6/97  | 818           | 626        |
| Florida   | 6/97  | 904           | 850        |
| Guam  | 7/97  | NA            | 671        |
| Commonwealth of the<br>Northern Mariana Islands | 7/97  | NA            | 670        |
| Texas   | 7/97  | 210           | 830        |
| Texas   | 7/97  | 210           | 956        |
| Kansas  | 7/97  | 913           | 785        |
| Wisconsin                                       | 7/97  | 414           | 920        |
| California                                      | 8/97  | 415           | 650        |
| Ohio  | 8/97  | 216           | 440        |
| Massachusetts                                   | 9/97  | 617           | 781        |
| Massachusetts                                   | 9/97  | 508           | 978        |
| Tennessee                                       | 9/97  | 615           | 931        |
| Mississippi                                     | 9/97  | 601           | 228        |
| Utah  | 9/97  | 801           | 435        |
| Dominica  | 10/97 | 809           | 767        |
| British Virgin Islands                          | 10/97 | 809           | 284        |

**Table 19.1**  
**Area Code Assignments -- Continued**  
**(1984-2001)**

| <b>Location</b>               | <b>Date</b> | <b>Previous Code</b> | <b>Added Code</b> |
|-------------------------------|-------------|----------------------|-------------------|
| Missouri                      | 10/97       | 816                  | 660               |
| Yukon & Northwest Territories | 10/97       | 403                  | 867               |
| Yukon & Northwest Territories | 10/97       | 819                  | 867               |
| Grenada                       | 10/97       | 809                  | 473               |
| California                    | 11/97       | 916                  | 530               |
| Oklahoma                      | 11/97       | 405                  | 580               |
| Ohio                          | 12/97       | 614                  | 740               |
| Michigan                      | 12/97       | 313                  | 734               |
| North Carolina                | 12/97       | 910                  | 336               |
| Georgia (Atlanta)             | 1/98        | 770                  | 678               |
| Pennsylvania                  | 2/98        | 412                  | 724               |
| Florida                       | 3/98        | 305                  | 786               |
| California                    | 3/98        | 510                  | 925               |
| South Carolina                | 3/98        | 803                  | 843               |
| North Carolina                | 3/98        | 704                  | 828               |
| North Carolina                | 3/98        | 919                  | 252               |
| Alabama                       | 3/98        | 205                  | 256               |
| California                    | 4/98        | 714                  | 949               |
| Colorado                      | 2/98        | 303                  | 720               |
| St. Vincent & the Grenadines  | 6/98        | 809                  | 784               |
| California (Los Angeles)      | 6/98        | 213                  | 323               |
| Quebec                        | 6/98        | 514                  | 450               |
| Florida                       | 7/98        | 813                  | 727               |
| California                    | 7/98        | 408                  | 831               |
| Minnesota                     | 7/98        | 612                  | 651               |
| Louisiana                     | 8/98        | 504                  | 225               |
| California                    | 11/98       | 209                  | 559               |
| Pennsylvania                  | 12/98       | 717                  | 570               |
| Nevada                        | 12/98       | 702                  | 775               |
| Texas (Houston)               | 1/99        | 281                  | 832               |
| Texas (Houston)               | 1/99        | 713                  | 832               |
| Alberta                       | 1/99        | 403                  | 780               |
| California                    | 2/99        | 805                  | 661               |
| Texas                         | 2/99        | 512                  | 361               |
| Arizona                       | 3/99        | 602                  | 480               |
| Arizona                       | 3/99        | 602                  | 623               |
| Kentucky                      | 4/99        | 502                  | 270               |
| Mississippi                   | 4/99        | 601                  | 662               |
| Missouri                      | 5/99        | 314                  | 636               |
| Michigan                      | 6/99        | 616                  | 231               |
| Pennsylvania                  | 6/99        | 215                  | 267               |
| Pennsylvania                  | 6/99        | 610                  | 484               |
| California                    | 6/99        | 619                  | 858               |
| New Jersey                    | 6/99        | 609                  | 856               |
| New York (Manhattan)          | 7/99        | 212                  | 646               |
| Texas (Dallas)                | 7/99        | 214                  | 469               |



**Table 19.1**  
**Area Code Assignments -- Continued**  
**(1984-2001)**

| Location       | Date  | Previous Code | Added Code |
|----------------|-------|---------------|------------|
| Texas (Dallas) | 7/99  | 972           | 469        |
| Florida        | 9/99  | 941           | 863        |
| Wisconsin      | 9/99  | 414           | 262        |
| Louisiana      | 10/99 | 318           | 337        |
| Florida        | 11/99 | 407           | 321        |
| New York       | 11/99 | 516           | 631        |
| Tennessee      | 11/99 | 423           | 865        |
| Texas          | 2/00  | 409           | 936        |
| Texas          | 2/00  | 409           | 979        |
| Minnesota      | 2/00  | 612           | 763        |
| Minnesota      | 2/00  | 612           | 952        |
| Virginia       | 3/00  | 703           | 571        |
| Kentucky       | 4/00  | 606           | 859        |
| New York       | 6/00  | 914           | 845        |
| California     | 7/00  | 515           | 641        |
| Georgia        | 8/00  | 912           | 478        |
| Georgia        | 8/00  | 912           | 229        |
| Oregon         | 10/00 | 503           | 971        |
| Texas          | 10/00 | 817           | 682        |
| Ohio           | 10/00 | 234           | 330        |
| Kansas         | 2/01  | 316           | 620        |
| Tennessee      | 2/01  | 901           | 731        |
| Louisiana      | 2/01  | 504           | 985        |
| Florida        | 2/01  | 904           | 386        |
| Ontario        | 3/01  | 416           | 647        |
| Iowa           | 3/01  | 319           | 563        |
| North Carolina | 4/01  | 704           | 980        |
| Michigan       | 4/01  | 517           | 989        |
| Massachusetts  | 5/01  | 781           | 339        |
| Massachusetts  | 5/01  | 978           | 351        |
| Massachusetts  | 5/01  | 508           | 774        |
| Massachusetts  | 5/01  | 617           | 857        |
| Virginia       | 6/01  | 804           | 434        |
| Ontario        | 6/01  | 905           | 289        |
| Alabama        | 6/01  | 334           | 251        |
| Arizona        | 6/01  | 520           | 928        |

Source: North American Numbering Plan Administration (NANPA).

**Table 19.2****Telephone Numbers Assigned for Toll-Free Service \*  
(Summary December 1993 - 2000 and July 2001)**

| <b>Year Month</b> | <b>Working<br/>Toll-Free<br/>Numbers</b> | <b>Miscellaneous<br/>Toll-Free<br/>Numbers 1/</b> | <b>Total<br/>Toll-Free<br/>Numbers<br/>Assigned</b> | <b>Spare Toll-Free<br/>Numbers<br/>Still<br/>Available</b> |
|-------------------|--|---|---|--|
| 1993 December     | 3,155,955                                | 731,438   | 3,887,393   | 3,822,607  |
| 1994 December     | 4,948,605                                | 763,235   | 5,711,840   | 1,998,160  |
| 1995 December     | 6,700,576                                | 286,487   | 6,987,063   | 722,937  |
| 1996 December     | 9,527,982                                | 945,671   | 10,473,653  | 5,216,347  |
| 1997 December     | 12,980,714                               | 996,449   | 13,977,163  | 1,712,837  |
| 1998 December     | 16,200,883                               | 965,466   | 17,166,349  | 6,503,651  |
| 1999 December     | 19,677,001                               | 1,101,964   | 20,778,965  | 2,891,035  |
| 2000 December     | 23,022,015                               | 1,178,096   | 24,200,111  | 7,449,889  |
| 2001 July         | 23,035,980                               | 1,422,494   | 24,458,474  | 7,191,526  |

**Table 19.2****Telephone Numbers Assigned for Toll-Free Service \*  
800 Toll-Free Service**

| <b>Year</b> | <b>Month</b> | <b>Working<br/>800<br/>Numbers</b> | <b>Miscellaneous<br/>800<br/>Numbers 1/</b> | <b>Total<br/>800<br/>Numbers<br/>Assigned</b> | <b>Spare 800<br/>Numbers<br/>Still<br/>Available</b> |           |
|-------------|--------------|------------------------------------|---|---|--|-----------|
| 1993        | April        | 2,448,985                          | 642,725                                     | 3,091,710                                     | 4,618,290  |           |
|             | May          | 2,511,933                          | 708,192                                     | 3,220,125                                     | 4,489,875  |           |
|             | June         | 2,589,123                          | 722,006                                     | 3,311,129                                     | 4,398,871  |           |
|             | July         | 2,675,483                          | 705,416                                     | 3,380,899                                     | 4,329,101  |           |
|             | August       | 2,738,259                          | 701,009                                     | 3,439,268                                     | 4,270,732  |           |
|             | September    | 2,818,262                          | 639,547                                     | 3,457,809                                     | 4,252,191  |           |
|             | October      | 2,891,994                          | 660,544                                     | 3,552,538                                     | 4,157,462  |           |
|             | November     | 3,083,250                          | 728,514                                     | 3,811,764                                     | 3,898,236  |           |
|             | December     | 3,155,955                          | 731,438                                     | 3,887,393                                     | 3,822,607  |           |
|             | 1994         | January                            | 3,257,540                                   | 580,216                                       | 3,837,756  | 3,872,244 |
|             |              | February                           | 3,381,646                                   | 731,005                                       | 4,112,651  | 3,597,349 |
|             |              | March                              | 3,516,620                                   | 743,813                                       | 4,260,433  | 3,449,567 |
| April       |              | 3,659,129                          | 699,212                                     | 4,358,341                                     | 3,351,659  |           |
| May         |              | 3,793,865                          | 738,767                                     | 4,532,632                                     | 3,177,368  |           |
| June        |              | 3,933,037                          | 792,698                                     | 4,725,735                                     | 2,984,265  |           |
| July        |              | 4,099,174                          | 699,803                                     | 4,798,977                                     | 2,911,023  |           |
| August      |              | 4,312,486                          | 807,881                                     | 5,120,367                                     | 2,589,633  |           |
| September   |              | 4,506,014                          | 841,381                                     | 5,347,395                                     | 2,362,605  |           |
| October     |              | 4,611,014                          | 871,684                                     | 5,482,698                                     | 2,227,302  |           |
| November    |              | 4,817,854                          | 875,416                                     | 5,693,270                                     | 2,016,730  |           |
| December    |              | 4,948,605                          | 763,235                                     | 5,711,840                                     | 1,998,160  |           |
| 1995        | January      | 5,096,646                          | 807,294                                     | 5,903,940                                     | 1,806,060  |           |
|             | February     | 5,278,800                          | 811,221                                     | 6,090,021                                     | 1,619,979  |           |
|             | March        | 5,528,723                          | 793,771                                     | 6,322,494                                     | 1,387,506  |           |
|             | April        | 5,741,780                          | 797,902                                     | 6,539,682                                     | 1,170,318  |           |
|             | May          | 5,980,848                          | 843,093                                     | 6,823,941                                     | 886,059  |           |
|             | June         | 6,340,534                          | 481,633                                     | 6,822,167                                     | 887,833  |           |
|             | July         | 6,402,785                          | 443,717                                     | 6,846,502                                     | 863,498  |           |
|             | August       | 6,428,120                          | 442,270                                     | 6,870,390                                     | 839,610  |           |
|             | September    | 6,503,018                          | 437,215                                     | 6,940,233                                     | 769,767  |           |
|             | October      | 6,583,344                          | 396,605                                     | 6,979,949                                     | 730,051  |           |
|             | November     | 6,647,880                          | 310,043                                     | 6,957,923                                     | 752,077  |           |
|             | December     | 6,700,576                          | 286,487                                     | 6,987,063                                     | 722,937  |           |
| 1996        | January      | 6,766,607                          | 297,001                                     | 7,063,608                                     | 646,392  |           |
|             | February     | 6,861,093                          | 335,557                                     | 7,196,650                                     | 513,350  |           |
|             | March        | 6,907,098                          | 293,244                                     | 7,200,342                                     | 509,658  |           |
|             | April        | 6,934,085                          | 280,927                                     | 7,215,012                                     | 494,988  |           |
|             | May          | 6,943,620                          | 333,140                                     | 7,276,760                                     | 433,240  |           |
|             | June         | 6,986,821                          | 324,899                                     | 7,311,720                                     | 398,280  |           |
|             | July         | 7,022,309                          | 339,900                                     | 7,362,209                                     | 347,791  |           |
|             | August       | 7,074,772                          | 311,273                                     | 7,386,045                                     | 323,955  |           |
|             | September    | 7,119,167                          | 310,562                                     | 7,429,729                                     | 280,271  |           |
|             | October      | 7,185,135                          | 325,088                                     | 7,510,223                                     | 199,777  |           |
|             | November     | 7,242,377                          | 337,502                                     | 7,579,879                                     | 130,121  |           |
|             | December     | 7,272,819                          | 343,905                                     | 7,616,724                                     | 93,276   |           |

**Table 19.2**

**Telephone Numbers Assigned for Toll-Free Service \* -- Continued  
800 Toll-Free Service**

| <b>Year</b> | <b>Month</b> | <b>Working<br/>800<br/>Numbers</b> | <b>Miscellaneous<br/>800<br/>Numbers 1/</b> | <b>Total<br/>800<br/>Numbers<br/>Assigned</b> | <b>Spare 800<br/>Numbers<br/>Still<br/>Available</b> |
|-------------|--------------|------------------------------------|---|---|--|
| 1997        | January      | 7,333,632                          | 323,804                                     | 7,657,436                                     | 52,564   |
|             | February     | 7,388,696                          | 318,571                                     | 7,707,267                                     | 2,733  |
|             | March        | 7,402,769                          | 305,362                                     | 7,708,131                                     | 1,869  |
|             | April        | 7,411,118                          | 296,925                                     | 7,708,043                                     | 1,957  |
|             | May          | 7,411,291                          | 294,320                                     | 7,705,611                                     | 4,389  |
|             | June         | 7,415,591                          | 293,802                                     | 7,709,393                                     | 607  |
|             | July         | 7,421,288                          | 283,794                                     | 7,705,082                                     | 4,918  |
|             | August       | 7,430,733                          | 276,024                                     | 7,706,757                                     | 3,243  |
|             | September    | 7,427,717                          | 280,668                                     | 7,708,385                                     | 1,615  |
|             | October      | 7,433,483                          | 276,490                                     | 7,709,973                                     | 27   |
|             | November     | 7,423,662                          | 276,576                                     | 7,700,238                                     | 9,762  |
|             | December     | 7,429,160                          | 267,429                                     | 7,696,589                                     | 13,411   |
| 1998        | January      | 7,431,789                          | 264,143                                     | 7,695,932                                     | 14,068   |
|             | February     | 7,445,338                          | 257,493                                     | 7,702,831                                     | 7,169  |
|             | March        | 7,455,240                          | 249,964                                     | 7,705,204                                     | 4,796  |
|             | April        | 7,464,692                          | 232,462                                     | 7,697,154                                     | 12,846   |
|             | May          | 7,476,270                          | 228,409                                     | 7,704,679                                     | 5,321  |
|             | June         | 7,480,468                          | 227,041                                     | 7,707,509                                     | 2,491  |
|             | July         | 7,485,866                          | 221,078                                     | 7,706,944                                     | 3,056  |
|             | August       | 7,483,417                          | 224,242                                     | 7,707,659                                     | 2,341  |
|             | September    | 7,489,271                          | 219,080                                     | 7,708,351                                     | 1,649  |
|             | October      | 7,479,005                          | 229,889                                     | 7,708,894                                     | 1,106  |
|             | November     | 7,478,913                          | 228,892                                     | 7,707,805                                     | 2,195  |
|             | December     | 7,487,529                          | 215,267                                     | 7,702,796                                     | 7,204  |
| 1999        | January      | 7,498,435                          | 194,520                                     | 7,692,955                                     | 17,045   |
|             | February     | 7,504,256                          | 192,068                                     | 7,696,324                                     | 13,676   |
|             | March        | 7,498,527                          | 204,515                                     | 7,703,042                                     | 6,958  |
|             | April        | 7,506,452                          | 202,241                                     | 7,708,693                                     | 1,307  |
|             | May          | 7,504,523                          | 204,751                                     | 7,709,274                                     | 726  |
|             | June         | 7,502,118                          | 207,061                                     | 7,709,179                                     | 821  |
|             | July         | 7,512,928                          | 196,345                                     | 7,709,273                                     | 727  |
|             | August       | 7,514,686                          | 194,434                                     | 7,709,120                                     | 880  |
|             | September    | 7,523,302                          | 185,363                                     | 7,708,665                                     | 1,335  |
|             | October      | 7,493,898                          | 215,756                                     | 7,709,654                                     | 346  |
|             | November     | 7,499,343                          | 210,266                                     | 7,709,609                                     | 391  |
|             | December     | 7,505,737                          | 202,416                                     | 7,708,153                                     | 1,847  |
| 2000        | January      | 7,486,650                          | 223,367                                     | 7,710,017                                     | N.A.   |
|             | February     | 7,490,980                          | 198,506                                     | 7,689,486                                     | 20,514   |
|             | March        | 7,516,391                          | 193,246                                     | 7,709,637                                     | 363  |
|             | April        | 7,531,395                          | 177,779                                     | 7,709,174                                     | 826  |
|             | May          | 7,547,157                          | 158,776                                     | 7,705,933                                     | 4,067  |
|             | June         | 7,570,082                          | 139,444                                     | 7,709,526                                     | 474  |
|             | July         | 7,576,696                          | 132,065                                     | 7,708,761                                     | 1,239  |
|             | August       | 7,558,277                          | 151,720                                     | 7,709,997                                     | 3  |
|             | September    | 7,752,091                          | (42,295)                                    | 7,709,796                                     | 204  |
|             | October      | 7,578,617                          | 131,366                                     | 7,709,983                                     | 17   |
|             | November     | 7,563,824                          | 135,636                                     | 7,699,460                                     | 10,540   |
|             | December     | 7,566,810                          | 132,887                                     | 7,699,697                                     | 10,303   |
| 2001        | January      | 7,483,975                          | 215,316                                     | 7,699,291                                     | 10,709   |
|             | February     | 7,450,121                          | 248,257                                     | 7,698,378                                     | 11,622   |
|             | March        | 7,434,621                          | 264,967                                     | 7,699,588                                     | 10,412   |
|             | April        | 7,407,530                          | 292,123                                     | 7,699,653                                     | 10,347   |
|             | May          | 7,410,426                          | 261,585                                     | 7,672,011                                     | 37,989   |
|             | June         | 7,357,279                          | 242,106                                     | 7,599,385                                     | 110,615  |
|             | July         | 7,336,672                          | 222,085                                     | 7,558,757                                     | 151,243  |

**Table 19.2**

**TelephoneNumbers Assigned for Toll-Free Service \* -- Continued  
888 Toll-Free Service**

| <b>Year</b> | <b>Month</b> | <b>Working<br/>888<br/>Numbers</b> | <b>Miscellaneous<br/>888<br/>Numbers 1/</b> | <b>Total<br/>888<br/>Numbers<br/>Assigned</b> | <b>Spare 888<br/>Numbers<br/>Still<br/>Available</b> |
|-------------|--------------|------------------------------------|---|---|--|
| 1996        | February     | 67,399                             | 560,598                                     | 627,997                                       | 7,352,003  |
|             | March        | 267,874                            | 568,574                                     | 836,448                                       | 7,143,552  |
|             | April        | 442,005                            | 565,402                                     | 1,007,407                                     | 6,972,593  |
|             | May          | 707,374                            | 542,428                                     | 1,249,802                                     | 6,730,198  |
|             | June         | 922,849                            | 544,079                                     | 1,466,928                                     | 6,513,072  |
|             | July         | 1,157,770                          | 549,845                                     | 1,707,615                                     | 6,272,385  |
|             | August       | 1,437,660                          | 576,399                                     | 2,014,059                                     | 5,965,941  |
|             | September    | 1,641,519                          | 590,345                                     | 2,231,864                                     | 5,748,136  |
|             | October      | 1,886,663                          | 629,365                                     | 2,516,028                                     | 5,463,972  |
|             | November     | 2,074,600                          | 622,375                                     | 2,696,975                                     | 5,283,025  |
|             | December     | 2,255,163                          | 601,766                                     | 2,856,929                                     | 5,123,071  |
|             | 1997         | January                            | 2,457,250                                   | 591,533                                       | 3,048,783  |
| February    |              | 2,654,984                          | 629,997                                     | 3,284,981                                     | 4,695,019  |
| March       |              | 2,857,608                          | 661,164                                     | 3,518,772                                     | 4,461,228  |
| April       |              | 3,097,015                          | 646,709                                     | 3,743,724                                     | 4,236,276  |
| May         |              | 3,399,856                          | 657,615                                     | 4,057,471                                     | 3,922,529  |
| June        |              | 3,660,984                          | 681,981                                     | 4,342,965                                     | 3,637,035  |
| July        |              | 3,990,769                          | 696,331                                     | 4,687,100                                     | 3,292,900  |
| August      |              | 4,345,910                          | 742,755                                     | 5,088,665                                     | 2,891,335  |
| September   |              | 4,776,688                          | 774,431                                     | 5,551,119                                     | 2,428,881  |
| October     |              | 5,139,455                          | 726,515                                     | 5,865,970                                     | 2,114,030  |
| November    |              | 5,353,989                          | 699,223                                     | 6,053,212                                     | 1,926,788  |
| December    |              | 5,551,554                          | 729,020                                     | 6,280,574                                     | 1,699,426  |
| 1998        | January      | 5,760,023                          | 719,289                                     | 6,479,312                                     | 1,500,688  |
|             | February     | 5,968,391                          | 723,679                                     | 6,692,070                                     | 1,287,930  |
|             | March        | 6,167,479                          | 728,415                                     | 6,895,894                                     | 1,084,106  |
|             | April        | 6,373,603                          | 690,041                                     | 7,063,644                                     | 916,356  |
|             | May          | 6,493,156                          | 672,776                                     | 7,165,932                                     | 814,068  |
|             | June         | 6,591,764                          | 665,496                                     | 7,257,260                                     | 722,740  |
|             | July         | 6,705,902                          | 661,085                                     | 7,366,987                                     | 613,013  |
|             | August       | 6,790,315                          | 669,486                                     | 7,459,801                                     | 520,199  |
|             | September    | 6,898,718                          | 612,254                                     | 7,510,972                                     | 469,028  |
|             | October      | 7,012,860                          | 573,695                                     | 7,586,555                                     | 393,445  |
|             | November     | 7,054,472                          | 572,759                                     | 7,627,231                                     | 352,769  |
|             | December     | 7,146,159                          | 515,009                                     | 7,661,168                                     | 318,832  |

**Table 19.2****Telephone Numbers Assigned for Toll-Free Service \* -- Continued  
888 Toll-Free Service**

| <b>Year</b> | <b>Month</b> | <b>Working<br/>888<br/>Numbers</b> | <b>Miscellaneous<br/>888<br/>Numbers 1/</b> | <b>Total<br/>888<br/>Numbers<br/>Assigned</b> | <b>Spare 888<br/>Numbers<br/>Still<br/>Available</b> |
|-------------|--------------|------------------------------------|---|---|--|
| 1999        | January      | 7,196,336                          | 510,057                                     | 7,706,393                                     | 273,607  |
|             | February     | 7,249,001                          | 493,132                                     | 7,742,133                                     | 237,867  |
|             | March        | 7,278,531                          | 495,904                                     | 7,774,435                                     | 205,565  |
|             | April        | 7,324,847                          | 234,588                                     | 7,559,435                                     | 420,565  |
|             | May          | 7,385,748                          | 216,196                                     | 7,601,944                                     | 378,056  |
|             | June         | 7,428,424                          | 231,697                                     | 7,660,121                                     | 319,879  |
|             | July         | 7,487,759                          | 231,884                                     | 7,719,643                                     | 260,357  |
|             | August       | 7,546,299                          | 233,286                                     | 7,779,585                                     | 200,415  |
|             | September    | 7,601,867                          | 211,318                                     | 7,813,185                                     | 166,815  |
|             | October      | 7,542,131                          | 341,720                                     | 7,883,851                                     | 96,149   |
|             | November     | 7,592,293                          | 342,918                                     | 7,935,211                                     | 44,789   |
|             | December     | 7,643,158                          | 324,405                                     | 7,967,563                                     | 12,437   |
| 2000        | January      | 7,615,927                          | 363,960                                     | 7,979,887                                     | 113  |
|             | February     | 7,627,138                          | 247,788                                     | 7,874,926                                     | 105,074  |
|             | March        | 7,685,423                          | 230,035                                     | 7,915,458                                     | 64,542   |
|             | April        | 7,717,002                          | 229,345                                     | 7,946,347                                     | 33,653   |
|             | May          | 7,758,684                          | 157,984                                     | 7,916,668                                     | 63,332   |
|             | June         | 7,789,986                          | 140,658                                     | 7,930,644                                     | 49,356   |
|             | July         | 7,820,147                          | 141,713                                     | 7,961,860                                     | 18,140   |
|             | August       | 7,806,064                          | 167,935                                     | 7,973,999                                     | 6,001  |
|             | September    | 7,806,252                          | 173,588                                     | 7,979,840                                     | 160  |
|             | October      | 7,804,668                          | 175,332                                     | 7,980,000                                     | 0  |
|             | November     | 7,795,241                          | 172,827                                     | 7,968,068                                     | 11,932   |
|             | December     | 7,789,188                          | 177,328                                     | 7,966,516                                     | 13,484   |
| 2001        | January      | 7,647,783                          | 324,097                                     | 7,971,880                                     | 8,120  |
|             | February     | 7,628,543                          | 345,775                                     | 7,974,318                                     | 5,682  |
|             | March        | 7,616,189                          | 355,451                                     | 7,971,640                                     | 8,360  |
|             | April        | 7,601,821                          | 344,060                                     | 7,945,881                                     | 34,119   |
|             | May          | 7,573,372                          | 264,492                                     | 7,837,864                                     | 142,136  |
|             | June         | 7,548,761                          | 270,198                                     | 7,818,959                                     | 161,041  |
|             | July         | 7,540,276                          | 254,940                                     | 7,795,216                                     | 184,784  |

**Table 19.2**

**Telephone Numbers Assigned for Toll-Free Service \* -- Continued  
877 Toll-Free Service**

| <b>Year</b> | <b>Month</b> | <b>Working<br/>877<br/>Numbers</b> | <b>Miscellaneous<br/>877<br/>Numbers 1/</b> | <b>Total<br/>877<br/>Numbers<br/>Assigned</b> | <b>Spare 877<br/>Numbers<br/>Still<br/>Available</b> |           |
|-------------|--------------|------------------------------------|---|---|--|-----------|
| 1998        | April        | 168,300                            | 276,169                                     | 444,469                                       | 7,535,531  |           |
|             | May          | 354,303                            | 256,712                                     | 611,015                                       | 7,368,985  |           |
|             | June         | 552,037                            | 209,967                                     | 762,004                                       | 7,217,996  |           |
|             | July         | 759,971                            | 179,830                                     | 939,801                                       | 7,040,199  |           |
|             | August       | 918,956                            | 201,087                                     | 1,120,043                                     | 6,859,957  |           |
|             | September    | 1,072,046                          | 206,714                                     | 1,278,760                                     | 6,701,240  |           |
|             | October      | 1,259,620                          | 277,038                                     | 1,536,658                                     | 6,443,342  |           |
|             | November     | 1,386,726                          | 292,264                                     | 1,678,990                                     | 6,301,010  |           |
|             | December     | 1,567,195                          | 235,190                                     | 1,802,385                                     | 6,177,615  |           |
|             | 1999         | January                            | 1,712,675                                   | 233,863                                       | 1,946,538  | 6,033,462 |
|             |              | February                           | 1,920,715                                   | 299,430                                       | 2,220,145  | 5,759,855 |
|             |              | March                              | 2,141,228                                   | 329,044                                       | 2,470,272  | 5,509,728 |
| April       |              | 2,410,517                          | 403,711                                     | 2,814,228                                     | 5,165,772  |           |
| May         |              | 2,678,075                          | 407,450                                     | 3,085,525                                     | 4,894,475  |           |
| June        |              | 2,899,466                          | 410,026                                     | 3,309,492                                     | 4,670,508  |           |
| July        |              | 3,140,981                          | 491,644                                     | 3,632,625                                     | 4,347,375  |           |
| August      |              | 3,472,534                          | 456,372                                     | 3,928,906                                     | 4,051,094  |           |
| September   |              | 3,755,361                          | 436,433                                     | 4,191,794                                     | 3,788,206  |           |
| October     |              | 4,008,681                          | 486,968                                     | 4,495,649                                     | 3,484,351  |           |
| November    |              | 4,304,159                          | 505,179                                     | 4,809,338                                     | 3,170,662  |           |
| December    |              | 4,528,106                          | 575,143                                     | 5,103,249                                     | 2,876,751  |           |
| 2000        | January      | 4,882,111                          | 573,482                                     | 5,455,593                                     | 2,524,407  |           |
|             | February     | 5,118,387                          | 659,479                                     | 5,777,866                                     | 2,202,134  |           |
|             | March        | 5,436,297                          | 598,702                                     | 6,034,999                                     | 1,945,001  |           |
|             | April        | 5,764,078                          | 520,951                                     | 6,285,029                                     | 1,694,971  |           |
|             | May          | 6,098,025                          | 469,486                                     | 6,567,511                                     | 1,412,489  |           |
|             | June         | 6,317,507                          | 402,858                                     | 6,720,365                                     | 1,259,635  |           |
|             | July         | 6,608,186                          | 391,545                                     | 6,999,731                                     | 980,269  |           |
|             | August       | 6,636,282                          | 385,065                                     | 7,021,347                                     | 958,653  |           |
|             | September    | 6,539,180                          | 496,015                                     | 7,035,195                                     | 944,805  |           |
|             | October      | 6,475,202                          | 622,384                                     | 7,097,586                                     | 882,414  |           |
|             | November     | 6,436,613                          | 657,271                                     | 7,093,884                                     | 886,116  |           |
|             | December     | 6,391,285                          | 719,333                                     | 7,110,618                                     | 869,382  |           |
| 2001        | January      | 6,425,413                          | 612,539                                     | 7,037,952                                     | 942,048  |           |
|             | February     | 6,369,360                          | 559,994                                     | 6,929,354                                     | 1,050,646  |           |
|             | March        | 6,289,079                          | 469,980                                     | 6,759,059                                     | 1,220,941  |           |
|             | April        | 6,249,330                          | 537,570                                     | 6,786,900                                     | 1,193,100  |           |
|             | May          | 6,191,049                          | 611,661                                     | 6,802,710                                     | 1,177,290  |           |
|             | June         | 6,094,898                          | 715,097                                     | 6,809,995                                     | 1,170,005  |           |
|             | July         | 6,147,253                          | 602,984                                     | 6,750,237                                     | 1,229,763  |           |

**Table 19.2****Telephone Numbers Assigned for Toll-Free Service \* -- Continued  
866 Toll-Free Service**

| <b>Year</b> | <b>Month</b> | <b>Working<br/>866<br/>Numbers</b> | <b>Miscellaneous<br/>866<br/>Numbers 1/</b> | <b>Total<br/>866<br/>Numbers<br/>Assigned</b> | <b>Spare 866<br/>Numbers<br/>Still<br/>Available</b> |
|-------------|--------------|------------------------------------|---|---|--|
| 2000        | July         | 8,714                              | 135,238                                     | 143,952                                       | 7,836,048  |
|             | August       | 384,164                            | 213,442                                     | 597,606                                       | 7,382,394  |
|             | September    | 672,250                            | 155,646                                     | 827,896                                       | 7,152,104  |
|             | October      | 931,620                            | 161,091                                     | 1,092,711                                     | 6,887,289  |
|             | November     | 1,200,025                          | 139,026                                     | 1,339,051                                     | 6,640,949  |
|             | December     | 1,274,732                          | 148,548                                     | 1,423,280                                     | 6,556,720  |
| 2001        | January      | 1,485,551                          | 190,096                                     | 1,675,647                                     | 6,304,353  |
|             | February     | 1,597,785                          | 224,368                                     | 1,822,153                                     | 6,157,847  |
|             | March        | 1,652,602                          | 361,888                                     | 2,014,490                                     | 5,965,510  |
|             | April        | 1,726,291                          | 356,526                                     | 2,082,817                                     | 5,897,183  |
|             | May          | 1,868,490                          | 345,639                                     | 2,214,129                                     | 5,765,871  |
|             | June         | 1,944,520                          | 362,880                                     | 2,307,400                                     | 5,672,600  |
|             | July         | 2,011,779                          | 342,485                                     | 2,354,264                                     | 5,625,736  |

\* Toll-free (800) service was initially offered by AT&T in 1967. On May 3, 1993, procedures for routing toll-free calls were changed and 800 numbers were made "portable" so customers who switched service providers could retain their numbers. Due to the growth in toll-free numbers, a new toll-free calling code, 888, was added in March 1996 giving the ability to assign about 8 million new toll-free numbers. A third toll-free calling code, 877, was added in April 1998 and a fourth toll-free code, 866, was added in Nov. 2000.

1/ Miscellaneous numbers include those in the 800, 888, 877, and 866 service management systems maintained by Database Service Management, Inc., and categorized as reserved, assigned but not yet activated, recently disconnected, or suspended.



**Table 19.3**  
**Dialing Patterns of the United States**  
**Number of Digits Necessary to Dial Local and Toll Calls**  
**(As of March 2001)**

| <b>State</b>         | <b>Local Calls<br/>Within Same<br/>Area Code</b> | <b>Local Calls<br/>Between<br/>Area Codes</b> | <b>Toll Calls<br/>Within Same<br/>Area Code</b> | <b>Toll Calls<br/>Between<br/>Area Codes</b> | <b>Toll Calls<br/>Require<br/>Dialing 1 +</b> |
|----------------------|--|---|---|--|---|
| Alabama              | 7  | 7 <sup>1</sup>                                | 1 + 10  | 1 + 10                                       | Yes   |
| Alaska               | 7  | 1 + 10  | 1 + 10  | 1 + 10                                       | Yes   |
| Arizona              | 7  | 10 <sup>2</sup>                               | 1 + 10  | 1 + 10                                       | Yes   |
| Arkansas             | 7  | 7   | 1 + 10  | 1 + 10                                       | Yes   |
| California           | 7  | 1 + 10  | 7   | 1 + 10                                       | No  |
| Colorado             | 7 <sup>3</sup>                                   | 10 <sup>4</sup>                               | 1 + 10  | 1 + 10                                       | Yes   |
| Connecticut          | 7 <sup>5</sup>                                   | 10  | 1 + 10  | 1 + 10                                       | Yes   |
| Delaware             | 7  | 10  | 1 + 10  | 1 + 10                                       | Yes   |
| District of Columbia | 7  | 10  | NA  | 1 + 10                                       | Yes   |
| Florida              | 7 <sup>6</sup>                                   | 10  | 1 + 10  | 1 + 10                                       | Yes   |
| Georgia              | 7 <sup>7</sup>                                   | 10  | 1 + 10  | 1 + 10                                       | Yes   |
| Hawaii               | 7  | NA  | 1 + 10  | 1 + 10                                       | Yes   |
| Idaho                | 7  | 7   | 1 + 10  | 1 + 10                                       | Yes   |
| Illinois             | 7 <sup>8</sup>                                   | 1 + 10  | 1 + 10  | 1 + 10                                       | Yes   |
| Indiana              | 7  | 7   | 1 + 10  | 1 + 10                                       | Yes   |
| Iowa                 | 7  | 10 <sup>9</sup>                               | 1 + 10  | 1 + 10                                       | Yes   |
| Kansas               | 7  | 7 <sup>10</sup>                               | 1 + 10  | 1 + 10                                       | Yes   |
| Kentucky             | 7  | 7   | 1 + 10  | 1 + 10                                       | Yes   |
| Louisiana            | 7  | 1 + 10 <sup>11</sup>                          | 1 + 10  | 1 + 10                                       | Yes   |
| Maine                | 7  | 1 + 10  | 1 + 10  | 1 + 10                                       | Yes   |
| Maryland             | 10   | 10  | 1 + 10  | 1 + 10                                       | Yes   |
| Massachusetts        | 10 <sup>12</sup>                                 | 10  | 1 + 10  | 1 + 10                                       | Yes   |
| Michigan             | 7 <sup>13</sup>                                  | 1 + 10 <sup>14</sup>                          | 1 + 10  | 1 + 10                                       | Yes   |
| Minnesota            | 7  | 10 <sup>15</sup>                              | 1 + 10  | 1 + 10                                       | Yes   |
| Mississippi          | 7  | 7   | 1 + 10  | 1 + 10                                       | Yes   |
| Missouri             | 7 <sup>16</sup>                                  | 1+10 <sup>17</sup>                            | 10 <sup>18</sup>                                | 1 + 10                                       | No  |
| Montana              | 7  | 7   | 1 + 10  | 1 + 10                                       | Yes   |
| Nebraska             | 7  | 7   | 1 + 10  | 1 + 10                                       | Yes   |
| Nevada               | 7  | 1 + 10  | 1 + 10  | 1 + 10                                       | Yes   |
| New Hampshire        | 7  | 1 + 10  | 7   | 1 + 10                                       | No  |
| New Jersey           | 7 <sup>19</sup>                                  | 1 + 10  | 7 <sup>19</sup>                                 | 1 + 10                                       | No  |
| New Mexico           | 7  | 7   | 1 + 10  | 1 + 10                                       | Yes   |
| New York             | 7  | 1 + 10  | 7   | 1 + 10                                       | No  |
| North Carolina       | 10   | 10  | 1 + 10  | 1 + 10                                       | Yes   |
| North Dakota         | 7  | 7   | 1 + 10  | 1 + 10                                       | Yes   |
| Ohio                 | 7 <sup>20</sup>                                  | 1 + 10 <sup>21</sup>                          | 1 + 10  | 1 + 10                                       | Yes   |
| Oklahoma             | 7  | 7   | 1 + 10  | 1 + 10                                       | Yes   |
| Oregon               | 10 <sup>22</sup>                                 | 10 <sup>22</sup>                              | 1 + 10  | 1 + 10                                       | Yes   |
| Pennsylvania         | 10 <sup>23</sup>                                 | 10 <sup>24</sup>                              | 7 <sup>25</sup>                                 | 1 + 10                                       | No  |
| Rhode Island         | 7  | 1 + 10  | 7   | 1 + 10                                       | No  |
| South Dakota         | 7  | 7   | 1 + 10  | 1 + 10                                       | Yes   |
| Tennessee            | 7  | 7 <sup>25</sup>                               | 1 + 10  | 1 + 10                                       | Yes   |
| Texas                | 7 <sup>26</sup>                                  | 10  | 1 + 10  | 1 + 10                                       | Yes   |
| Utah                 | 7  | 10 <sup>27</sup>                              | 1 + 10  | 1 + 10                                       | Yes   |
| Virginia             | 7 <sup>28</sup>                                  | 10 <sup>29</sup>                              | 1 + 10  | 1 + 10                                       | Yes   |
| Washington           | 7 <sup>30</sup>                                  | 10 <sup>31</sup>                              | 1 + 10  | 1 + 10                                       | Yes   |
| West Virginia        | 7  | 1 + 10  | 1 + 10  | 1 + 10                                       | Yes   |
| Wisconsin            | 7  | 1 + 10  | 1 + 10  | 1 + 10                                       | Yes   |
| Wyoming              | 7  | 7   | 1 + 10  | 1 + 10                                       | Yes   |

NA - Not Applicable.

Source: Planning letters for individual area codes. Planning letters are available at <[www.nanpa.com](http://www.nanpa.com)>.

### Notes to Table 19.3

- <sup>1</sup> In area code 251 1+10-digit dialing is used.
- <sup>2</sup> In area code 520 7-digit dialing is used.
- <sup>3</sup> In area codes 303 and 720, 10-digit dialing is used.
- <sup>4</sup> In area code 970 7-digit dialing is used.
- <sup>5</sup> In area codes 475 and 959, 10-digit dialing is used.
- <sup>6</sup> In area codes 305, 321, 407 and 786, 10-digit dialing is used.
- <sup>7</sup> In area codes 404, 470, 678 and 770, 10-digit dialing is used.
- <sup>8</sup> In area codes 224, 331, 464 and 847, 10-digit dialing is used.
- <sup>9</sup> In area codes 319 and 712, 7-digit dialing is used.
- <sup>10</sup> In area codes 316 and 620, 10-digit dialing is used.
- <sup>11</sup> In area codes 504 and 985, 10-digit dialing is used
- <sup>12</sup> In area code 413 7-digit dialing is used.
- <sup>13</sup> In area codes 679 and 947, 10-digit dialing is used.
- <sup>14</sup> In area code 989 10-digit dialing is used.
- <sup>15</sup> In area codes 218, 330 and 507, 7-digit dialing is used.
- <sup>16</sup> In area codes 557 and 975, 10-digit dialing is used.
- <sup>17</sup> In area codes 314, 557 and 975, 10-digit dialing is used.
- <sup>18</sup> In area codes 557 and 975, 1+10-digit dialing is used.
- <sup>19</sup> In area codes 551, 848 and 862, 10-digit dialing is used.
- <sup>20</sup> In area codes 234, 330, 419 and 567, 10-digit dialing is used.
- <sup>21</sup> In area codes 419 and 567, 10-digit dialing is used.
- <sup>22</sup> In area code 541 7-digit dialing is used.
- <sup>23</sup> In area codes 412, 570, 717, 724 and 814, 7-digit dialing is used.
- <sup>24</sup> In area codes 412, 570, 717, 724 and 814, 1+10-digit dialing is used.
- <sup>25</sup> In area code 731 10-digit dialing is used.
- <sup>26</sup> In area codes 214, 281, 469, 682, 713, 817, 832 and 972, 10-digit dialing is used.
- <sup>27</sup> In area code 435, 7-digit dialing is used.
- <sup>28</sup> In area codes 571 and 703, 10-digit dialing is used.
- <sup>29</sup> In area code 434, 10-digit dialing is used.
- <sup>30</sup> In area codes 360 and 564, 10-digit dialing is used.
- <sup>31</sup> In area code 509, 7-digit dialing is used.

## 20 Universal Service

The high-cost support mechanisms enable areas with very high costs to recover some of these costs from the support mechanisms, leaving a smaller remainder of the costs to be recovered through end-user rates. In this manner, the high-cost support mechanisms are intended to hold down rates and thereby further one of the most important goals of federal and state regulation -- the preservation and advancement of universal telephone service.

There currently are five high-cost support mechanisms. These include three existing mechanisms for embedded high-cost loop (HCL) support<sup>1</sup>, long-term support (LTS), and local switching support (LSS). Two new mechanisms have been added since our last report. These are the forward-looking high-cost model support and the interstate access universal service support.

The universal service fund (USF) high-cost loop support provides assistance to companies with above average non-traffic-sensitive local loop costs -- a term that refers to the costs of providing the loop connection between the customers and the central office. The second high-cost support mechanism, LTS, is also related to non-traffic-sensitive costs. LTS provides support to members of the NECA common line pool, to allow them to charge a below-cost carrier common line rate. The third high-cost support mechanism, LSS, is related to traffic-sensitive local switching costs. LSS provides support to LECs with study areas of 50,000 or fewer access lines to help defray the higher switching cost of small LECs.

In October 1999, the Commission adopted the fourth mechanism, a new high-cost support mechanism for non-rural carriers. The new mechanism is based on the forward-looking costs of providing supported services as determined by the Commission's cost model. For each state, the cost model calculates the wire center average forward-looking cost per line incurred by non-rural carriers to provide supported services. These wire center average costs are then averaged at the statewide level to determine the statewide average forward-looking cost per line. The forward-looking support mechanism provides support to non-rural carriers in those states that have a statewide average forward-looking cost per line greater than the national benchmark, which is set at 135 percent of the national average forward-looking cost per line.<sup>2</sup>

On May 31, 2000, the Commission established the fifth mechanism, an explicit interstate access universal service support mechanism for price-cap carriers to replace the implicit support previously collected through interstate access charges. Like LTS, the purpose of this new mechanism is to

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<sup>1</sup> This was formerly referred to as the Universal Service Fund, and still bears that name in the Commission rules. It is now referred to as High-Cost Loop support to avoid confusion with the new, more comprehensive universal service support mechanisms that the Commission developed to implement the 1996 Act. *See* 47 CFR § 36.601.

<sup>2</sup> *But cf. Qwest Corp. v. FCC*, 2001 WL 864222 (10<sup>th</sup> Cir. July 31, 2001) (reversing and remanding the Ninth Order of the FCC “because it does not provide sufficient reasoning or record evidence to support [the] reasonableness [of its decision].”)

provide explicit support to ensure reasonably affordable interstate rates. This is in contrast to the Commission's other high-cost support mechanisms, which provide support to enable states to ensure reasonably affordable and comparable intrastate rates.

Table 20.1 shows USF, LTS, LSS, forward-looking high-cost model support, and interstate access universal service support payments from 1986 to 2000. Table 20.2 shows projected payments by state for 2000. It should be noted that these projections do not include subsequent quarterly true-ups.

Eligible schools and libraries receive telecommunications services, Internet access, and internal connections at discounts that range from 20 percent to 90 percent. The level of the discount is based on eligibility for the national school lunch program, location in a rural area, and the total amount of money requested by all schools and libraries. These schools and libraries are eligible to receive support for services that qualify as telecommunications services, Internet access, or internal connections.

The portion of universal service support designated for health care providers is designed to allow rural health care providers to purchase telecommunications services at the same rates that health care providers located in urban areas pay for these services. The Commission's universal service rules permit eligible health care providers to receive support for any telecommunications service and for distance charges for the distance between the rural health care provider and the nearest large city. The Commission defined "nearest large city" as the closest city in the state with a population of at least 50,000. In addition, any health care provider that cannot obtain toll-free Internet access is entitled to receive the lesser of \$180 of toll charges per month, or the toll charges incurred for 30 hours per month, for telecommunications access to an Internet service provider.

Table 20.3 shows, on a state-by-state basis, funding commitments to schools and libraries for the July 1, 1999 - June 30, 2000 funding year. The commitments are broken down by type of service that was funded. Table 20.4 shows, on a state-by-state basis, funding commitments and funding authorizations to rural health care providers for the same period. Funding authorizations represent the penultimate step before actual disbursement of funds, and reflect actual disbursements to providers in those states.

Carriers contribute to universal service based on their end-user revenues. Since November 1999, all contributions to USF are based on interstate end-user revenues. Table 20.5 shows interstate and intrastate contribution rates since the first quarter of 1998.

**Table 20.1**  
**Universal Service Fund Payment History**  
(In Millions of Dollars)

| Year | High-Cost Loop Support | Long-Term Support | Switching Support | New High-Cost Model Support | Interstate Access Support | Total Support | Cumulative Payments |
|------|------------------------|-------------------|-------------------|-----------------------------|---------------------------|---------------|---------------------|
| 1986 | \$56                   | \$0               | NA                | \$0                         | \$0                       | \$56          | \$56                |
| 1987 | 126                    | 0                 | NA                | 0                           | 0                         | 126           | 181                 |
| 1988 | 183                    | 0                 | NA                | 0                           | 0                         | 183           | 365                 |
| 1989 | 265                    | 236               | NA                | 0                           | 0                         | 500           | 865                 |
| 1990 | 339                    | 263               | NA                | 0                           | 0                         | 602           | 1,467               |
| 1991 | 485                    | 272               | NA                | 0                           | 0                         | 757           | 2,223               |
| 1992 | 609                    | 306               | NA                | 0                           | 0                         | 915           | 3,138               |
| 1993 | 705                    | 323               | \$311             | 0                           | 0                         | 1,339         | 4,477               |
| 1994 | 725                    | 347               | 304               | 0                           | 0                         | 1,376         | 5,853               |
| 1995 | 750                    | 382               | 325               | 0                           | 0                         | 1,457         | 7,310               |
| 1996 | 763                    | 426               | 348               | 0                           | 0                         | 1,536         | 8,846               |
| 1997 | 794                    | 470               | 351               | 0                           | 0                         | 1,614         | 10,460              |
| 1998 | 827                    | 473               | 413               | 0                           | 0                         | 1,712         | 12,173              |
| 1999 | 864                    | 473               | 383               | 0                           | 0                         | 1,720         | 13,893              |
| 2000 | 872                    | 479               | 391               | 219                         | 276                       | 2,237         | 16,130              |

NA - Not Available.

Sources: Industry Analysis Division, *Monitoring Report* and USAC filings.

**Table 20.2**  
**Projected High-Cost Support Payments by State: 2000**  
(In Thousands of Dollars)

|                          | <b>High-Cost Loop Support</b> | <b>Long-Term Loop Support</b> | <b>Local Switching Support</b> | <b>New High-Cost Model Support</b> | <b>Interstate Access Support</b> | <b>Total Support</b> |
|--------------------------|-------------------------------|-------------------------------|--------------------------------|------------------------------------|----------------------------------|----------------------|
| Alabama                  | \$13,188                      | \$7,335                       | \$6,554                        | \$51,744                           | \$8,830                          | \$87,650             |
| Alaska                   | 38,841                        | 16,954                        | 15,444                         | 0                                  | 0                                | 71,240               |
| American Samoa           | 0                             | 258                           | 333                            | 0                                  | 0                                | 591                  |
| Arizona                  | 19,902                        | 3,111                         | 10,327                         | 0                                  | 2,075                            | 35,414               |
| Arkansas                 | 46,309                        | 15,394                        | 7,767                          | 0                                  | 3,417                            | 72,887               |
| California               | 28,553                        | 13,271                        | 7,454                          | 0                                  | 16,413                           | 65,692               |
| Colorado                 | 28,096                        | 12,112                        | 4,031                          | 0                                  | 8,130                            | 52,369               |
| Connecticut              | 0                             | 163                           | 723                            | 0                                  | 0                                | 886                  |
| Delaware                 | 0                             | 0                             | 0                              | 0                                  | 195                              | 195                  |
| District of Columbia     | 0                             | 0                             | 0                              | 0                                  | 0                                | 0                    |
| Florida                  | 10,582                        | 5,321                         | 3,756                          | 0                                  | 30,807                           | 50,466               |
| Georgia                  | 42,691                        | 17,863                        | 12,907                         | 0                                  | 6,066                            | 79,527               |
| Guam                     | 1,319                         | 1,946                         | 0                              | 0                                  | 0                                | 3,266                |
| Hawaii                   | 379                           | 159                           | 786                            | 0                                  | 732                              | 2,055                |
| Idaho                    | 18,866                        | 3,459                         | 6,609                          | 0                                  | 6,916                            | 35,850               |
| Illinois                 | 6,704                         | 6,212                         | 11,884                         | 0                                  | 6,593                            | 31,393               |
| Indiana                  | 4,921                         | 5,134                         | 9,040                          | 0                                  | 11,637                           | 30,731               |
| Iowa                     | 4,381                         | 7,237                         | 15,023                         | 0                                  | 3,790                            | 30,431               |
| Kansas                   | 38,856                        | 11,452                        | 13,599                         | 0                                  | 3,336                            | 67,243               |
| Kentucky                 | 9,496                         | 4,899                         | 4,965                          | 1,212                              | 9,033                            | 29,606               |
| Louisiana                | 43,967                        | 16,729                        | 6,710                          | 0                                  | 5,441                            | 72,848               |
| Maine                    | 6,038                         | 6,009                         | 7,474                          | 10,776                             | 417                              | 30,713               |
| Maryland                 | 0                             | 91                            | 461                            | 0                                  | 1,842                            | 2,394                |
| Massachusetts            | 21                            | 102                           | 470                            | 0                                  | 675                              | 1,269                |
| Michigan                 | 21,791                        | 9,821                         | 7,869                          | 0                                  | 90                               | 39,571               |
| Minnesota                | 16,598                        | 12,154                        | 17,305                         | 0                                  | 2,037                            | 48,094               |
| Mississippi              | 14,507                        | 5,076                         | 3,802                          | 103,707                            | 5,959                            | 133,052              |
| Missouri                 | 39,819                        | 10,660                        | 8,185                          | 0                                  | 7,715                            | 66,380               |
| Montana                  | 25,241                        | 10,009                        | 9,332                          | 1,542                              | 267                              | 46,391               |
| Nebraska                 | 8,071                         | 3,861                         | 11,089                         | 0                                  | 599                              | 23,621               |
| Nevada                   | 4,420                         | 916                           | 6,354                          | 0                                  | 2,990                            | 14,680               |
| New Hampshire            | 1,147                         | 1,512                         | 4,893                          | 0                                  | 992                              | 8,544                |
| New Jersey               | 0                             | 0                             | 970                            | 0                                  | 2,534                            | 3,504                |
| New Mexico               | 18,576                        | 6,160                         | 9,122                          | 0                                  | 3,843                            | 37,701               |
| New York                 | 14,992                        | 6,806                         | 18,518                         | 0                                  | 12,706                           | 53,021               |
| North Carolina           | 10,577                        | 12,053                        | 5,935                          | 0                                  | 5,739                            | 34,304               |
| North Dakota             | 7,991                         | 5,982                         | 10,478                         | 0                                  | 517                              | 24,969               |
| Northern Mariana Islands | 2,457                         | 0                             | 727                            | 0                                  | 126                              | 3,310                |
| Ohio                     | 5,822                         | 5,213                         | 4,654                          | 0                                  | 3,897                            | 19,587               |
| Oklahoma                 | 32,957                        | 16,412                        | 13,178                         | 0                                  | 3,395                            | 65,942               |
| Oregon                   | 22,444                        | 9,254                         | 7,366                          | 0                                  | 7,824                            | 46,888               |
| Pennsylvania             | 1,095                         | 14,137                        | 7,010                          | 0                                  | 6,570                            | 28,812               |
| Puerto Rico              | 51,970                        | 91,622                        | 0                              | 0                                  | 0                                | 143,591              |
| Rhode Island             | 0                             | 0                             | 0                              | 0                                  | 25                               | 25                   |
| South Carolina           | 20,182                        | 11,098                        | 10,728                         | 0                                  | 8,334                            | 50,342               |
| South Dakota             | 5,946                         | 5,040                         | 9,934                          | 0                                  | 33                               | 20,953               |
| Tennessee                | 11,913                        | 10,393                        | 7,550                          | 0                                  | 4,496                            | 34,352               |
| Texas                    | 69,832                        | 29,651                        | 18,153                         | 0                                  | 18,810                           | 136,446              |
| Utah                     | 3,908                         | 1,488                         | 5,367                          | 0                                  | 1,584                            | 12,347               |
| Vermont                  | 3,397                         | 2,389                         | 4,836                          | 15,104                             | 188                              | 25,913               |
| Virgin Islands           | 16,947                        | 7,206                         | 0                              | 0                                  | 0                                | 24,153               |
| Virginia                 | 4,369                         | 3,342                         | 4,096                          | 0                                  | 25,319                           | 37,126               |
| Washington               | 23,499                        | 13,268                        | 5,845                          | 0                                  | 8,646                            | 51,259               |
| West Virginia            | 17,540                        | 1,061                         | 3,534                          | 31,235                             | 9,691                            | 63,061               |
| Wisconsin                | 17,633                        | 12,832                        | 22,103                         | 0                                  | 1,292                            | 53,860               |
| Wyoming                  | 13,730                        | 4,501                         | 5,584                          | 3,612                              | 2,959                            | 30,386               |
| <b>Total</b>             | <b>\$872,481</b>              | <b>\$479,134</b>              | <b>\$390,833</b>               | <b>\$218,931</b>                   | <b>\$275,523</b>                 | <b>\$2,236,901</b>   |

Sources: Industry Analysis Division, *Monitoring Report* and USAC filings.

**Table 20.3**  
**Schools and Libraries Funding Commitments by State and by Type of Service**  
**(Funding Period: July 1, 1999 Through June 30, 2000**  
**Funds Committed Through February 24, 2001)<sup>1</sup>**

| State/Territory      | Internal Connections   |                     | Internet Access      |                     | Telecom. & Dedicated |                     | Totals                 |                     |
|----------------------|------------------------|---------------------|----------------------|---------------------|----------------------|---------------------|------------------------|---------------------|
|                      | Funds Committed        | Funding Commitments | Funds Committed      | Funding Commitments | Funds Committed      | Funding Commitments | Funds Committed        | Funding Commitments |
| Alabama              | \$16,458,562           | 696                 | \$3,272,547          | 216                 | \$6,476,305          | 730                 | \$26,207,413           | 1,642               |
| Alaska               | 3,450,841              | 211                 | 621,959              | 57                  | 7,499,734            | 356                 | 11,572,535             | 624                 |
| American Samoa       | 1,179,617              | 2                   | 1,046,886            | 2                   | 477,318              | 1                   | 2,703,821              | 5                   |
| Arizona              | 30,888,694             | 775                 | 1,233,584            | 168                 | 6,026,777            | 657                 | 38,149,055             | 1,600               |
| Arkansas             | 3,298,168              | 260                 | 2,579,882            | 34                  | 4,437,482            | 644                 | 10,315,531             | 938                 |
| California           | 177,529,778            | 4,028               | 8,413,523            | 459                 | 49,520,150           | 2,298               | 235,463,452            | 6,785               |
| Colorado             | 3,820,026              | 280                 | 658,597              | 185                 | 7,873,912            | 972                 | 12,352,535             | 1,437               |
| Connecticut          | 24,219,918             | 370                 | 1,590,919            | 146                 | 6,298,082            | 617                 | 32,108,919             | 1,133               |
| Delaware             | 33,192                 | 14                  | 35,155               | 8                   | 1,303,015            | 157                 | 1,371,361              | 179                 |
| District of Columbia | 4,990,872              | 88                  | 449,666              | 60                  | 3,987,419            | 360                 | 9,427,956              | 508                 |
| Florida              | 40,661,640             | 2,267               | 4,954,982            | 161                 | 28,085,059           | 1,184               | 73,701,681             | 3,612               |
| Georgia              | 66,763,537             | 1,302               | 4,631,124            | 162                 | 19,651,987           | 652                 | 91,046,648             | 2,116               |
| Hawaii               | 3,502,481              | 621                 | 281,952              | 16                  | 1,542,166            | 623                 | 5,326,598              | 1,260               |
| Idaho                | 2,528,245              | 151                 | 367,141              | 109                 | 1,832,226            | 314                 | 4,727,611              | 574                 |
| Illinois             | 132,720,646            | 1,668               | 3,571,923            | 505                 | 25,070,170           | 2,581               | 161,362,739            | 4,754               |
| Indiana              | 9,375,757              | 356                 | 1,922,715            | 177                 | 11,503,616           | 1,601               | 22,802,089             | 2,134               |
| Iowa                 | 3,659,353              | 586                 | 910,413              | 421                 | 3,380,352            | 1,249               | 7,950,118              | 2,256               |
| Kansas               | 7,541,237              | 305                 | 1,485,631            | 346                 | 5,902,400            | 940                 | 14,929,268             | 1,591               |
| Kentucky             | 42,424,395             | 1,731               | 1,423,001            | 115                 | 13,068,542           | 1,042               | 56,915,938             | 2,888               |
| Louisiana            | 22,981,410             | 1,482               | 4,876,371            | 208                 | 9,734,905            | 1,008               | 37,592,687             | 2,698               |
| Maine                | 1,447,201              | 268                 | 247,379              | 26                  | 1,919,460            | 503                 | 3,614,040              | 797                 |
| Maryland             | 10,477,378             | 209                 | 827,698              | 84                  | 10,743,738           | 347                 | 22,048,815             | 640                 |
| Massachusetts        | 19,271,003             | 574                 | 1,575,100            | 273                 | 12,152,732           | 945                 | 32,998,835             | 1,792               |
| Michigan             | 51,093,826             | 1,895               | 5,491,306            | 495                 | 22,285,146           | 2,108               | 78,870,278             | 4,498               |
| Minnesota            | 14,413,890             | 628                 | 1,380,954            | 196                 | 13,601,737           | 1,237               | 29,396,581             | 2,061               |
| Mississippi          | 16,660,744             | 1,276               | 2,027,063            | 217                 | 11,910,503           | 962                 | 30,598,310             | 2,455               |
| Missouri             | 9,105,392              | 1,330               | 9,284,241            | 2,402               | 10,375,549           | 1,178               | 28,765,182             | 4,910               |
| Montana              | 1,349,474              | 171                 | 586,848              | 266                 | 1,783,877            | 642                 | 3,720,198              | 1,079               |
| Nebraska             | 919,884                | 97                  | 512,112              | 193                 | 5,259,355            | 1,121               | 6,691,352              | 1,411               |
| Nevada               | 117,670                | 5                   | 87,282               | 14                  | 2,932,278            | 95                  | 3,137,231              | 114                 |
| New Hampshire        | 185,136                | 61                  | 204,434              | 77                  | 878,973              | 331                 | 1,268,543              | 469                 |
| New Jersey           | 24,854,126             | 804                 | 2,574,228            | 364                 | 16,474,573           | 1,379               | 43,902,927             | 2,547               |
| New Mexico           | 22,916,532             | 221                 | 740,844              | 83                  | 5,448,714            | 214                 | 29,106,091             | 518                 |
| New York             | 104,860,594            | 2,878               | 15,486,192           | 799                 | 72,256,892           | 5,499               | 192,603,678            | 9,176               |
| North Carolina       | 18,499,774             | 725                 | 3,711,385            | 298                 | 14,466,076           | 1,011               | 36,677,235             | 2,034               |
| North Dakota         | 657,866                | 239                 | 216,656              | 83                  | 1,311,431            | 444                 | 2,185,954              | 766                 |
| Northern Mariana Is. | 0                      | 0                   | 9,757                | 1                   | 85,643               | 15                  | 95,401                 | 16                  |
| Ohio                 | 21,800,665             | 973                 | 4,938,518            | 1,075               | 16,408,561           | 1,828               | 43,147,744             | 3,876               |
| Oklahoma             | 20,376,022             | 999                 | 3,596,435            | 425                 | 9,953,398            | 1,963               | 33,925,855             | 3,387               |
| Oregon               | 4,226,385              | 415                 | 592,420              | 105                 | 6,106,533            | 664                 | 10,925,337             | 1,184               |
| Pennsylvania         | 34,306,167             | 754                 | 3,501,410            | 556                 | 18,463,096           | 2,416               | 56,270,673             | 3,726               |
| Puerto Rico          | 42,178,990             | 155                 | 8,248,795            | 113                 | 16,851,991           | 204                 | 67,279,777             | 472                 |
| Rhode Island         | 4,004,239              | 184                 | 401,588              | 37                  | 3,418,082            | 201                 | 7,823,910              | 422                 |
| South Carolina       | 16,625,160             | 878                 | 229,899              | 17                  | 11,801,061           | 312                 | 28,656,120             | 1,207               |
| South Dakota         | 586,268                | 175                 | 519,169              | 163                 | 1,008,608            | 333                 | 2,114,045              | 671                 |
| Tennessee            | 31,132,713             | 2,786               | 18,395,529           | 282                 | 13,236,277           | 597                 | 62,764,519             | 3,665               |
| Texas                | 88,424,026             | 2,656               | 5,364,396            | 654                 | 41,147,783           | 2,330               | 134,936,206            | 5,640               |
| Utah                 | 428,430                | 53                  | 2,028,688            | 91                  | 3,271,463            | 309                 | 5,728,582              | 453                 |
| Vermont              | 199,444                | 81                  | 280,625              | 99                  | 1,108,464            | 454                 | 1,588,533              | 634                 |
| Virgin Islands       | 2,044,407              | 11                  | 220,321              | 7                   | 82,789               | 9                   | 2,347,516              | 27                  |
| Virginia             | 10,109,017             | 460                 | 1,832,619            | 194                 | 13,235,293           | 704                 | 25,176,929             | 1,358               |
| Washington           | 19,717,373             | 1,110               | 543,581              | 110                 | 12,505,611           | 1,067               | 32,766,565             | 2,287               |
| West Virginia        | 4,540,641              | 2,023               | 2,294,972            | 1,095               | 2,524,791            | 1,905               | 9,360,404              | 5,023               |
| Wisconsin            | 10,092,504             | 467                 | 2,985,766            | 378                 | 12,983,446           | 1,111               | 26,061,716             | 1,956               |
| Wyoming              | 2,941,437              | 126                 | 180,353              | 75                  | 1,846,414            | 275                 | 4,968,205              | 476                 |
| <b>Totals</b>        | <b>\$1,208,592,749</b> | <b>42,880</b>       | <b>\$145,446,537</b> | <b>14,902</b>       | <b>\$603,511,956</b> | <b>52,699</b>       | <b>\$1,957,551,242</b> | <b>110,481</b>      |

<sup>1</sup> Because of the appeals process, funding commitments have been made after the program year ended on June 30, 2000.

Source: USAC data. Rollups performed by the Industry Analysis Division, FCC.

**Table 20.4**  
**Rural Health Care Funding Commitments and Authorizations for Payment by State**  
**(Funding Period: July 1, 1999 Through June 30, 2000**  
**Activity Through December 31, 2000)**

| <b>State</b>         | <b>Total<br/>Funds<br/>Committed</b> | <b>Commitments<br/>to<br/>Providers</b> | <b>Total<br/>Funds Authorized<br/>for Payment</b> | <b>Authorizations<br/>for<br/>Providers</b> |
|----------------------|--------------------------------------|---|---|---|
| Alabama              | \$0                                  | 0                                       | \$0   | 0   |
| Alaska               | 4,662,920                            | 120                                     | 1,271,530   | 36  |
| Arizona              | 171,961                              | 21                                      | 34,138  | 10  |
| Arkansas             | 85,194                               | 25                                      | 10,731  | 10  |
| California           | 87,663                               | 14                                      | 85,711  | 13  |
| Colorado             | 48,531                               | 10                                      | 0   | 0   |
| Connecticut          | 0                                    | 0                                       | 0   | 0   |
| Delaware             | 0                                    | 0                                       | 0   | 0   |
| District of Columbia | 0                                    | 0                                       | 0   | 0   |
| Florida              | 0                                    | 0                                       | 0   | 0   |
| Georgia              | 0                                    | 0                                       | 0   | 0   |
| Hawaii               | 86,491                               | 10                                      | 85,358  | 9   |
| Idaho                | 26,501                               | 6                                       | 8,975   | 1   |
| Illinois             | 64,289                               | 12                                      | 0   | 0   |
| Indiana              | 0                                    | 0                                       | 0   | 0   |
| Iowa                 | 20,070                               | 14                                      | 3,551   | 2   |
| Kansas               | 138,223                              | 51                                      | 82,598  | 46  |
| Kentucky             | 0                                    | 0                                       | 0   | 0   |
| Louisiana            | 3,958                                | 1                                       | 0   | 0   |
| Maine                | 0                                    | 0                                       | 0   | 0   |
| Maryland             | 0                                    | 0                                       | 0   | 0   |
| Massachusetts        | 0                                    | 0                                       | 0   | 0   |
| Michigan             | 112,672                              | 15                                      | 4,430   | 1   |
| Minnesota            | 229,771                              | 56                                      | 35,224  | 8   |
| Mississippi          | 30,023                               | 9                                       | 4,034   | 2   |
| Missouri             | 36,550                               | 7                                       | 16,371  | 4   |
| Montana              | 135,713                              | 27                                      | 71,124  | 13  |
| Nebraska             | 264,679                              | 13                                      | 224,613   | 9   |
| Nevada               | 0                                    | 0                                       | 0   | 0   |
| New Hampshire        | 18,463                               | 5                                       | 0   | 0   |
| New Jersey           | 0                                    | 0                                       | 0   | 0   |
| New Mexico           | 135,942                              | 40                                      | 26,289  | 7   |
| New York             | 168                                  | 1                                       | 0   | 0   |
| North Carolina       | 81,856                               | 14                                      | 37,036  | 8   |
| North Dakota         | 53,647                               | 16                                      | 4,155   | 1   |
| Ohio                 | 31,761                               | 8                                       | 24,946  | 5   |
| Oklahoma             | 9,931                                | 3                                       | 9,931   | 3   |
| Oregon               | 4,993                                | 3                                       | 4,993   | 3   |
| Pennsylvania         | 0                                    | 0                                       | 0   | 0   |
| Rhode Island         | 0                                    | 0                                       | 0   | 0   |
| South Carolina       | 9,943                                | 2                                       | 4,636   | 1   |
| South Dakota         | 37,725                               | 22                                      | 15,435  | 6   |
| Tennessee            | 5,052                                | 3                                       | 0   | 0   |
| Texas                | 93,606                               | 18                                      | 6,821   | 7   |
| Utah                 | 0                                    | 0                                       | 0   | 0   |
| Vermont              | 29                                   | 1                                       | 0   | 0   |
| Virginia             | 3,608                                | 1                                       | 0   | 0   |
| Washington           | 18,095                               | 10                                      | 8,660   | 6   |
| West Virginia        | 804                                  | 2                                       | 0   | 0   |
| Wisconsin            | 4,157                                | 6                                       | 0   | 0   |
| Wyoming              | 715                                  | 1                                       | 0   | 0   |
| <b>Totals</b>        | <b>\$6,715,704</b>                   | <b>567</b>                              | <b>\$2,081,290</b>                                | <b>211</b>                                  |

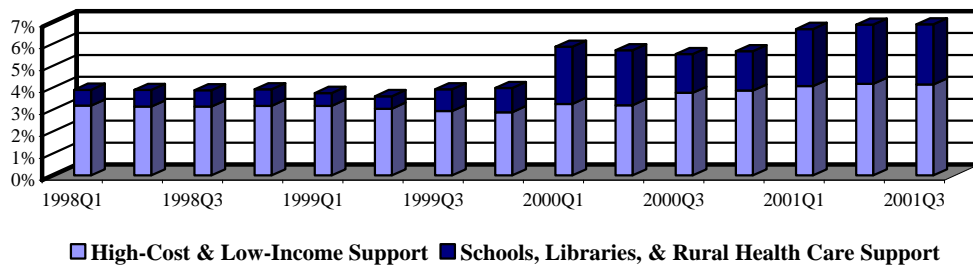
Source: USAC data. Rollups performed by the Industry Analysis Division, FCC.



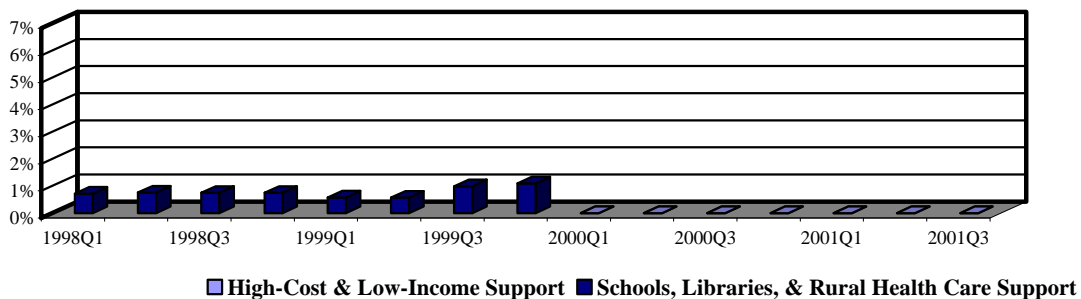
**Table 20.5**  
**Universal Service Fund Factors**

| Year Period        | Factors for Interstate End-User Revenues |   |             | Factors for Intrastate End-User Revenues |   |             |
|--------------------|--|---|-------------|--|---|-------------|
|                    | High-Cost & Low-Income Support           | Schools, Libraries, & Rural Health Care Support | All Support | High-Cost & Low-Income Support           | Schools, Libraries, & Rural Health Care Support | All Support |
| 1998 First Quarter | 3.19 %                                   | 0.72 %  | 3.91 %      | 0.00 %                                   | 0.72 %  | 0.72 %      |
| Second Quarter     | 3.14                                     | 0.76  | 3.90        | 0.00                                     | 0.76  | 0.76        |
| Third Quarter      | 3.14                                     | 0.75  | 3.89        | 0.00                                     | 0.75  | 0.75        |
| Fourth Quarter     | 3.18                                     | 0.75  | 3.93        | 0.00                                     | 0.75  | 0.75        |
| 1999 First Quarter | 3.18                                     | 0.58  | 3.76        | 0.00                                     | 0.58  | 0.58        |
| Second Quarter     | 3.05                                     | 0.57  | 3.62        | 0.00                                     | 0.57  | 0.57        |
| Third Quarter      | 2.94                                     | 0.99  | 3.93        | 0.00                                     | 0.99  | 0.99        |
| Fourth Quarter     | 2.89                                     | 1.10  | 3.99        | 0.00                                     | 1.10  | 1.10        |
| 2000 First Quarter | 3.27                                     | 2.61  | 5.88        | 0.00                                     | 0.00  | 0.00        |
| Second Quarter     | 3.21                                     | 2.50  | 5.71        | 0.00                                     | 0.00  | 0.00        |
| Third Quarter      | 3.77                                     | 1.77  | 5.54        | 0.00                                     | 0.00  | 0.00        |
| Fourth Quarter     | 3.88                                     | 1.79  | 5.67        | 0.00                                     | 0.00  | 0.00        |
| 2001 First Quarter | 4.07                                     | 2.61  | 6.68        | 0.00                                     | 0.00  | 0.00        |
| Second Quarter     | 4.18                                     | 2.70  | 6.88        | 0.00                                     | 0.00  | 0.00        |
| Third Quarter      | 4.15                                     | 2.74  | 6.89        | 0.00                                     | 0.00  | 0.00        |

**Chart 20.1**  
**Interstate Universal Service Fund Factors**



**Chart 20.2**  
**Intrastate Universal Service Fund Factors**



Source: Quarterly public notices on universal service contribution factors in CC Docket 96-45.

## 21 Appendix A – Sources of Telecommunications Information

The information in this report and, in many cases, more detailed information can be downloaded from the **FCC-State Link** Internet site at [www.fcc.gov/ccb/stats](http://www.fcc.gov/ccb/stats).

Printed copies of various statistical reports are available for reference in the FCC's Reference Information Center, Courtyard Level, 445 12th Street, S.W., and from the Commission's duplicating contractor, International Transcription Services, Inc. (ITS), 202-857-3800.

Additional information on regulated carriers, including investments, revenues, expenses, and earnings, is contained in the annual *Statistics of Communications Common Carriers*. The 60th Anniversary edition (1999/2000) can be purchased from the U.S. Government Printing Office (202-512-1800) and can be found on the **FCC-State Link**.

Filings with the Securities and Exchange Commission, such as the annual reports on Form 10-K, can be downloaded from the Edgar Internet site at [www.sec.gov](http://www.sec.gov).

The names, addresses and telephone numbers for companies in the telephone industry are published in the Industry Analysis Division's *Carrier Locator*, which can also be downloaded from the **FCC-State Link**.

The information on consumer expenditures (Table 3.1), employment (Tables 5.1 and 5.2), and price indices (Tables 13.1 - 13.3) comes from the Bureau of Labor Statistics and can be found on the Internet at [www.bls.gov/blshome.htm](http://www.bls.gov/blshome.htm).

FCC rules require carriers to provide more detailed traffic data about international telephone service than about domestic service. Because of delays in international settlements, such information is typically received by the Commission much later than domestic data and is usually published separately. Tables 6.1 - 6.5 contain summary information on international telephone service. More detailed international data are available from *International Telecommunications Data and Trends in the International Telecommunications Industry*, both of which are published by the Industry Analysis Division and can also be found on the **FCC-State Link**.

Table 10.5, on carrier identification codes, and Table 19.1, on area codes, come from the North American Numbering Plan Administration (NANPA), which is part of Neustar, Inc. Additional information on NANPA can be found on the Internet at [www.nanpa.com](http://www.nanpa.com).

The information on wireless telephone service shown in Tables 12.2 and 12.3 was prepared from data received from the Cellular Telecommunications & Internet Association (CTIA), 1133 21st Street N.W., Washington, D.C. 20036, 202-785-0081. CTIA can be found on the Internet at [www.wow-com.com](http://www.wow-com.com).

TNS Telecoms (TNS) has donated databases containing information on residential phone usage to the Commission. TNS has granted the Commission permission to use these databases for research

purposes and to publish the results. The 1995 survey is known as *Bill Harvesting II* and the 1996 survey, *Bill Harvesting III*. The expanded 1997 survey, which contains over twice as many observations, was conducted by both TNS Telecoms and by Market Facts, Inc. and is known as *TLC MarketShare Monitor*. Tables 10.9, 10.10, and 15.1 - 15.6 come from these databases. For additional information, TNS Telecoms can be contacted by phone at (215) 886-9200, and by e-mail at [info@pnr.com](mailto:info@pnr.com). Their address is 101 Greenwood Avenue, Suite 502, Jenkinstown, PA 19046.

Copies of NTIA's report *Falling Through the Net: Toward Digital Inclusion* can be obtained through NTIA's web site at [www.ntia.doc.gov](http://www.ntia.doc.gov) or by contacting NTIA's Office of Public Affairs at (202) 482-7002.

Tables 18.1-18.3 contain information from the ARMIS 43-07 reports for the BOCs. Individual carrier information can be obtained from the ARMIS web page at [www.fcc.gov/ccb/armis/db](http://www.fcc.gov/ccb/armis/db).

Chart 18.1 shows the number of patents granted for telecommunications. Additional information on U.S. patents can be found on the Internet at [www.uspto.gov](http://www.uspto.gov).

The United States Telecom Association (USTA) (1401 H Street N.W., Washington, D.C. 20005, 202-326-7300) represents most incumbent local telephone companies. Like many trade associations, it collects information from each of its members. Annually, it publishes and sells statistical publications such as *Statistics of the Local Exchange Carriers*. USTA can be found on the Internet at [www.usta.org](http://www.usta.org).

The Alliance for Local Telecommunications Services (ALTS) (888 17<sup>th</sup> Street N.W., Suite 900, Washington, D.C. 20006, 202-969-2587) represents many of the competitive local exchange carriers. They can be found on the Internet at [www.alts.org](http://www.alts.org). Their annual report, *The State of Local Competition 2001*, is also available on their web site.

## 22 Appendix B – Contacting the Report Authors

*Trends in Telephone Service* was prepared by the Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission. Principal authors of the report can be contacted at their electronic mail addresses or by calling the Industry Analysis Division at 202-418-0940. Users of TTY equipment should call 202-418-0484.

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