NEWS
FEDERAL COMMUNICATIONS COMMISSION
1919 M STREET, N.W.
WASHINGTON, D.C. 20554

News media information 202 / 632-5050
Recorded listing of releases and texts
202 / 632-0002

22078

This is an unofficial announcement of Commission action. Release of the full text of a Commission order constitutes official action. See MCI v. FCC, 515 F 2d 385 (D.C. Circ. 1975)

FCC RELEASES SEMIANNUAL STUDY ON TELEPHONE TRENDS

March 3, 1992

The FCC has released a semiannual report on Trends in Telephone Service. The report is a summary of information collected by the Commission in much more detailed and technical reports. It includes information on telephone subscribership levels, prices, consumer expenditures, calling volumes, long-distance carriers, market shares, and lifeline programs.

Among the findings are:

-- In November 1991, the Current Population Survey conducted by the Bureau of the Census reported that 93.4% of the nation's households have telephone service, compared with 93.3% a year ago.

-- During the year ended December 1991, the Consumer Price Index for telephone services increased 3.5%. The nation's overall rate of inflation during the past 12 months was 3.1%. Thus, after adjusting for inflation, the real cost of telephone service rose about 0.4%.

-- About 2.0% of all consumer expenditures are devoted to telephone service. The percentage has remained fairly constant since 1980. Since 1984, expenditures for toll service have increased by about 5% per year while reductions in long distance rates also averaged about 4% per year. This suggests that residential use of toll service has grown by about 10% annually.

-- The volume of interstate calling has doubled since 1983. As a result, by 1990, 14% of calling minutes were interstate compared with fewer than 8% in 1980.

This report is available for reference in the Industry Analysis Division, Common Carrier Bureau, 1250 23rd Street, NW., Plaza Level. Copies may be purchased from the Commission's duplicating contractor, Downtown Copy Center at (202) 452-1422.

- FCC -

For further information, contact the Industry Analysis Division, Common Carrier Bureau, at (202) 632-0745

Trends in Telephone Service

Industry Analysis Division

Common Carrier Bureau

Federal Communications Commission

February 1992

Table of Contents

INTRODUCTION:

This paper summarizes a variety of information on the telecommunications industry. Other information on regulated carriers, including investments, revenues, expenses, and earnings, is contained in the annual Statistics of Communications Common Carriers.

TELEPHONE SUBSCRIBERSHIP:

Under contract with the Federal Communications Commission, 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 independent and expert agency, the sample is very large and the questions are consistent. Thus, changes in the results can be compared overtime with a great deal of confidence.

Eleven 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. The Census data also reflect slight, but statistically significant, seasonal variations in penetration rates. This pattern, after allowing for effects of the upward trend in the data, is an increase of 0.3% from November to March, followed by a decrease of 0.2% from March to July, followed by a decrease of 0.1% from July to November. Because of smaller sample sizes, state-by-state data are subject to greater sampling errors than the national data shown in Table 1. Consequently, the state-by-state data shown in Table 2 are based on annual average penetration rates.

TABLE 1

Telephone Penetration in the U.S.

(Percentage of Households with Telephone Service)

Date	Households (millions)	Households with Telephones (millions)	Percentage with Telephones	Households without Telephones (millions)	Percentage without Telephones
November 1983	85.8	78.4	91.4%	7.4	8.6%
March 1984	86.0	78.9	91.8	7.1	8.2
July 1984	86.6	79.3	91.6	7.3	8.4
November 1984	87.4	79.9	91.4	7.5	8.6
March 1985	87.4	80.2	91.8	7.2	8.2
July 1985	88.2	81.0	91.8	7.2	8.2
November 1985	88.8	81.6	91.9	7.2	8.1
March 1986	89.0	82.1	92.2	6.9	7.8
July 1986	89.5	82.5	92.2	7.0	7.8
November 1986	89.9	83.1	92.4	6.8	7.6
March 1987	90.2	83.4	92.5	6.8	7.5
July 1987	90.7	83.7	92.3	7.0	7.7
November 1987	91.3	84.3	92.3	7.0	7.7
March 1988	91.8	85.3	92.9	6.5	7.1
July 1988	92.4	85.7	92.8	6.7	7.2
November 1988	92.6	85.7	92.5	6.9	7.5
March 1989	93.6	87.0	93.0	6.6	7.0
July 1989	93.8	87.5	93.3	6.3	6.7
November 1989	93.9	87.3	93.0	6.6	7.0
March 1990	94.2	87.9	93.3	6.3	6.7
July 1990	94.8	88.4	93.3	6.4	6.7
November 1990	94.7	88.4	93.3	6.3	6.7
March 1991	95.3	89.2	93.6	6.1	6.4
July 1991	95.5	89.1	93.3	6.4	6.7
November 1991	95.7	89.4	93.4	6.3	6.6

Table 2

Telephone Penetration by State

(Annual Average Percentage of Households with Telephone Service)

	1984	1991	Change			1984	1991	Change	
Alabama	88.4%	91.4%	3.0%		Missouri	91.5%	93.6%	2.1%	
Alaska	86.5%	90.8%	4.3%		Montana	91.0%	92.5%	1.6%	
Arizona	86.9%	93.4%	6.5%	*	Nebraska	95.7%	95.9%	0.2%	
Arkansas	86.6%	87.6%	1.0%		Nevada	90.4%	93.3%	2.9%	
California	92.5%	95.0%	2.6%	*	New Hampshire	94.3%	96.2%	1.9%	
Colorado	93.2%	95.4%	2.1%		New Jersey	94.8%	93.6%	-1.2%	
Connecticut	95.5%	96.2%	0.7%		New Mexico	82.0%	87.1%	5.0%	
Delaware	94.3%	96.4%	2.2%		New York	91.8%	91.9%	0.1%	
District of Columbia	94.9%	90.9%	-4.0%	*	North Carolina	88.3%	91.8%	3.5%	
Florida	88.7%	93.3%	4.6%	*	North Dakota	94.6%	96.3%	1.6%	
Georgia	86.2%	89.9%	3.7%		Ohio	92.4%	94.5%	2.1%	
Hawaii	93.5%	95.1%	1.6%		Oklahoma	90.3%	89.3%	-1.0%	
Idaho	90.7%	92.0%	1.2%		Oregon	90.6%	94.7%	4.1%	*
Illinois	94.2%	93.8%	-0.4%		Pennsylvania	94.9%	96.8%	1.9%	*
Indiana	91.6%	92.2%	0.6%		Rhode Island	93.6%	94.7%	1.1%	
Iowa	96.2%	95.6%	-0.7%		South Carolina	83.7%	90.0%	6.4%	*
Kansas	94.3%	94.5%	0.2%		South Dakota	93.2%	93.7%	0.5%	
Kentucky	88.1%	88.1%	-0.1%		Tennessee	88.5%	92.2%	3.7%	
Louisiana	89.7%	91.1%	1.5%		Texas	88.4%	91.1%	2.7%	*
Maine	93.4%	94.4%	1.0%		Utah	92.5%	96.2%	3.7%	
Maryland	95.7%	96.3%	0.6%		Vermont	92.3%	94.4%	2.2%	
Massachusetts	95.9%	96.4%	0.6%		Virginia	93.1%	92.6%	-0.5%	
Michigan	92.8%	94.1%	1.3%		Washington	93.0%	96.8%	3.8%	
Minnesota	95.8%	97.1%	1.2%		West Virginia	87.7%	89.0%	1.3%	
Mississippi	82.4%	86.0%	3.6%		Wisconsin	95.2%	96.5%	1.3%	
					Wyoming	89.9%	94.6%	4.8%	*
Total United States	91.6%	93.4%	1.8%	*					

* Change is statistically significant at the 95% confidence level.

Details may not add due to rounding.

CHANGES IN THE PRICE OF 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. The average American household now spends about as much on long distance service as on local service and the Consumer Expenditure Survey, which is used to provide weights for consumer price indexes, indicates that telephone service accounts for about 2% of total consumer expenditures. This percentage has remained virtually unchanged over the past 15 years, during which there have been major changes in the telephone industry and in telephone usage. The following sections illustrate the range of information available on price indexes and rate levels.

1. Long Term Trends in Prices:

A price index for telephone services was first published in 1935. Since that time, telephone prices have tended to increase at a slower pace than most other prices. Table 3 shows long run changes in the Consumer Price Indexes 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.

Table 3
Annual Rate of Change for Various Price indexes*

	1935 to 1991	1981 to 1991
CPI all items	4.2 %	4.1 %
CPI all services	4.6	5.2
CPI telephone services	2.1	3.5
CPI major categories		
– food & beverages	**	3.9
– housing	**	4.0
– apparel & upkeep	3.3	3.1
– transportation	4.0	3.2
– medical care	5.2	7.9
– entertainment	**	4.4
– other goods & services	**	7.6
CPI public transportation	5.1	5.7
CPI piped gas	3.7	2.8
CPI electricity	2.4	3.4
CPI sewer & water maintenance	**	6.9
CPI postage	4.4	4.9

* Exponential rates were calculated using "year average" index values for the first and last years of each comparison period.

** Series not established until after 1935.

2. Comprehensive Price Indexes:

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 both local and long distance services. Changes in telephone prices tend to lag behind other price changes. Overall inflation in the American economy peaked in 1979 and 1980. In contrast, the price of telephone services rose most rapidly during the years 1981 through 1984. The annual rate of change is shown in Table 4 for the Gross National Product fixed weight price index (which reflects inflation throughout the economy), the overall CPI (which measures the impact of inflation on consumers), and the CPI for telephone services.

Table 4

Annual Rate of Change in Major Price Indexes

	GNP Fixed Weight Price Index	CPI: All Items	CPI: Telephone Services
1978	7.2	9.0%	0.9%
1979	8.8	13.3	0.7
1980	9.8	12.5	4.6
1981	8.5	8.9	11.7
1982	5.0	3.8	7.2
1983	3.9	3.8	3.6
1984	3.7	3.9	9.2
1985	3.6	3.8	4.7
1986	2.3	1.1	2.7
1987	3.8	4.4	-1.3
1988	4.6	4.4	1.3
1989	4.0	4.6	-0.3
1990	4.8	6.1	-0.4
1991	4.2*	3.1	3.5

* Measured second quarter through second quarter.

3. Price Indexes for Local Service:

The Bureau of Labor Statistics publishes a number of price indexes related to local telephone service. The price indexes indicate percentage changes in the price of telephone services. The BLS does not publish the actual level of rates. 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, enhanced services (such as tone dialing and call waiting), taxes, subscriber line charges, and all other consumer expenditures associated with telephone services except long distance 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 and all other expenditures. The annual rates of change for these two indexes of local costs are presented in Table 5.

Table 5

Annual Rate of Change in Price Indexes
For Local Telephone Service

	CPI: All Local Charges	PPI: Monthly Service Charges For Residential Service
1978	1.4%	3.1%
1979	1.7	1.6
1980	7.0	7.1
1981	12.6	15.6
1982	10.8	9.0
1983	3.1	0.2
1984	17.2	10.4
1985	8.9	12.4
1986	7.1	8.9
1987	3.3	2.6
1988	4.5	4.6
1989	0.6	1.9
1990	1.0	1.5
1991*	5.1	2.0

* Local telephone rates rose at a similar pace in 1990 and 1991. Published CPI index levels, however, reflect a $8.72 per access line credit for Southwestern Bell customers in Texas in December 1990. This appears to have caused the local service and the overall telephone service indexes to drop significantly in December, with a corresponding rise in January. The use of December index levels to calculate annual price changes leads to an understatement of price changes in the CPI indexes in 1990 and a corresponding overstatement in 1991.

4. Price Indexes for Long Distance Service:

CPI data is available for intrastate toll and interstate toll services since December 1977. Table 6 presents the annual changes in these series.

Table 6

Annual Rate of Change in Price Indexes
For Long Distance Service

	CPI: Interstate Toll calls	CPI: Intrastate Toll calls
1978	-0.8%	1.3%
1979	-0.7	0.1
1980	3.4	- 0.6
1981	14.6	6.2
1982	2.6	4.2
1983	1.5	7.4
1984	-4.3	3.6
1985	-3.7	0.6
1986	-9.4	0.3
1987	-12.4	-3.0
1988	-4.2	-4.2
1989	-1.3	-2.6
1990	-3.7	-2.2
1991	1.3	-2.5

5. Local Rate Levels:

Local rates are regulated by state public utility commissions and vary so much from area to area that it is hard to characterize any rate as "typical". In most states, the Bell Operating Companies and larger independents charge higher rates in metropolitan areas than in rural areas -- a pricing practice that dates back to the turn of the century and is traditionally justified in the belief that the value of the service provided is higher for subscribers with larger local calling areas. California differs from most states in that rates for residential customers are averaged throughout the state. There, the basic local rate is $8.35 for areas served by Pacific Bell and $9.75 for areas served by General of California.

Table 7 presents average local rates for residential customers. They are based on surveys using the same sampling areas and weights used by the BLS in constructing the Consumer Price Index. In October 1991, the national average for flat rate residential service was $18.64 monthly, including taxes and subscriber line charges (SLCs). In most cities, consumers can subscribe to a service with a lower recurring charge than the cost of unlimited one party service. Lower priced service options include party line service and measured service. As of October 1991, the national average for the lowest generally available recurring charge was $6.24. The average minimum monthly bill, including subscriber line charges and taxes, was $11.11.

Table 7 also shows rates for a single-line business customer. These rates are representative of local access costs for small businesses.

Table 7

National Averages for Local Telephone Rates

	October Data								
	1983	1984	1985	1986	1987	1988	1989	1990	1991
Residential rates*									
Unlimited service	$10.50	$12.10	$12.17	$12.58	$12.44	$12.32	$12.30	$12.39	$13.05
Subscriber Line Charges	0.00	0.00	1.01	2.04	2.66	2.67	3.53	3.55	3.56
Taxes including 911 charges	1.08	1.25	1.36	1.51	1.56	1.58	1.70	1.85	2.03
Total	11.58	13.35	14.54	16.13	16.66	16.57	17.53	17.79	18.64
Lowest generally available rate	5.37	5.62	5.75	5.96	5.81	5.67	5.67	5.68	6.24
Subscriber Line Charges	0.00	0.00	1.01	2.04	2.66	2.67	3.53	3.55	3.56
Taxes including 911 charges	0.56	0.58	0.70	0.84	0.94	0.91	1.03	1.15	1.31
Total	5.93	6.20	7.46	8.84	9.41	9.25	10.23	10.38	11.11
Connection***	35.01	43.71	44.32	45.63	44.04	42.94	42.71	43.06	41.88
Taxes	1.75	2.19	2.22	2.28	2.20	2.11	2.24	2.32	2.29
Total	36.76	45.90	46.54	47.91	46.24	45.05	44.95	45.38	44.17
Business Rates **									
Representative rate	29.16	32.74	33.42	34.26	33.71	31.03	31.06	30.97	32.18
Touch Tone Service	**	**	**	**	**	2.45	2.43	2.35	2.04
Subscriber Line Charges	0.00	0.00	1.01	2.04	2.68	2.69	3.55	3.57	3.57
Taxes including 911 charges	3.35	3.77	3.96	4.17	4.18	3.95	4.21	4.32	4.63
Total	32.51	36.51	38.39	40.47	40.57	40.12	41.25	41.21	42.42
Average charge for 5 minute same zone daytime business call	0.085	0.090	0.090	0.092	0.092	0.091	0.093	0.093	0.091
Connection***	56.04	68.84	70.82	72.94	72.15	70.48	71.05	71.36	72.76
Touch Tone Service	**	**	**	**	**	2.03	1.70	1.89	1.13
Taxes	3.08	3.79	3.90	4.01	3.97	3.92	4.06	4.15	4.43
Total	59.12	72.63	74.72	76.95	76.12	76.43	76.81	77.40	78.32
5 minute payphone call	0.168	0.212	0.222	0.223	0.226	0.228	0.228	0.228	0.228

* The residential rates shown in this table do not include additional charges for touch tone service.

** The representative rate is the single line rate for unlimited service where that service is offered, and the measured service rate plus additional charges for the first 200 five minute messages in other cities. The representative business rate includes the additional monthly cost for touch tone service for for 1983 through 1987. The additional charge is shown separately thereafter.

*** Connection charges do not include drop line and block charges. Residential connection charges do not include additional charges for touch tone service. Business connection charges for 1983 through 1987 include the additional connection charge for installing touch tone service. The charge is shown separately thereafter.

6. Long Distance Rates:

In Table 8, the prices of several long distance calls are shown based on AT&T's tariffed rates during January 1984 and January 1992. During this period, AT&T's charges for directly dialed interstate calls have been reduced about 40%.

Table 8

Changes in the Price of Directly Dialed Long Distance Calls
(AT&T Prices from Washington, D.C.)

For calls to:		Five minute calls			Ten minute calls		
		January 1984	January 1992	Percentage change	January 1984	January 1992	Percentage change
New York City*	Day	$2.14	$1.04	-51.4%	$4.09	$2.09	-48.9%
	Evening	1.28	.72	-43.7	2.45	1.45	-40.8
	Night	.85	.61	-28.2	1.63	1.22	-25.2
Atlanta & Chicago**	Day	2.34	1.15	-50.9	4.49	2.30	-48.8
	Evening	1.40	.75	-46.4	2.69	1.50	-44.2
	Night	.93	.65	-30.1	1.79	1.30	-27.4
Los Angeles***	Day	2.70	1.25	-53.7	5.15	2.50	-51.5
	Evening	1.62	.77	-52.5	3.09	1.55	-49.8
	Night	1.08	.67	-38.0	2.06	1.35	-34.5

* The prices shown for calls between New York City and Washington, D.C. apply to all calls with distances between 125 and 292 miles.

** The prices shown apply to all calls with distances between 431 and 925 miles.

*** The prices shown apply to all calls with distances between 1911 and 3000 miles.

CONSUMER EXPENDITURES:

The Bureau of Labor Statistics conducts surveys of consumer expenditures, in part, to develop weights for CPI indexes. Table 9 shows expenditures for telephone service for all consumer units. Average expenditures per household increased from $325 in 1980 to $592 in 1990. About 2% of all consumer expenditures are devoted to telephone service. The percentage has remained fairly constant since 1980, and is slightly below the 2.2% found in earlier BLS studies of the 1972-1973 period.

The information on average telephone expenditures can be used to estimate average monthly residential bills. This average was slightly over $50 per month in 1990. Since 1980, expenditures for toll service have increased by about 5% per year while long distance rates were falling. This suggests that residential use of toll service has grown by about 10% per year.

Table 9

Annual Expenditures on Telephone Service
(Average for all Households)

Year	Telephone Expenditures	Percentage of Total Expenditures
1980	$325	1.9%
1981	360	2.1
1982	375	2.1
1983	415	2.1
1984	435	2.0
1985	455	1.9
1986	471	2.0
1987	499	2.0
1988	537	2.1
1989	567	2.0
1990	592	2.1

Table 10

Monthly Expenditures for Telephone Service
(for Households with Telephone Service)

Year	Basic Local Service *	Toll and Other **	Total
1980	$8.70	$20.90	$29.60
1981	9.70	23.10	32.80
1982	10.80	23.40	34.20
1983	11.60	26.20	37.80
1984	13.40	26.20	39.60
1985	14.50	26.80	41.30
1986	16.10	26.40	42.50
1987	16.70	28.40	45.10
1988	16.60	31.70	48.30
1989	17.50	33.30	50.80
1990	17.80	35.10	52.90

* Monthly service charges for unlimited local service, taxes, and subscriber line charges.

** Primarily toll services. Also includes charges for equipment, additional access lines, connection, touch tone, call waiting, "900 service", directory listings, etc.

STATE TELEPHONE RATE CASES:

The actions of state regulatory commissions provide important indicators of future rate changes. Rate cases completed by the state commissions tend to result in immediate rate changes. At the same time, the amount of rate relief requested by local telephone companies, but not yet acted upon by state commissions, provides an indicator of future rate changes.

At the beginning of 1984, rate cases pending before state public utility commissions totaled nearly $7 billion dollars. During the first half of that year, state commissions completed action on a number of extraordinarily large rate cases. After the first half of 1984, the level of activity in state cases diminished substantially. Since 1987, the dollar amount of rate reductions and refunds ordered by state commissions has exceeded the dollar amount of rate increases authorized. The total amount of rate increases pending before public utility commissions is only about $280 million. Since it typically takes more than a year for a rate case to be completed, the low level of pending cases -- viewed in conjunction with the recent reductions ordered by state commissions -- should indicate a low level of state and local rate changes during at least the next year.

TABLE 11
State Telephone Rate Cases
(Millions of Dollars)

		Revenue Increases Requested During Quarter	Revenue Changes Ordered During Quarter	Requested Increases Pending at End of Quarter
1984	First quarter	$ 627.7	$ 1,175.6	$ 4,851.9
	Second quarter	93.7	2,054.2	1,675.6
	Third quarter	2,242.9	284.5	3,387.5
	Fourth quarter	1,059.4	361.2	3,672.3
	Total	4,023.7	3,875.5	
1985	First quarter	976.6	246.3	3,779.0
	Second quarter	172.4	314.8	3,316.3
	Third quarter	108.3	286.5	2,664.2
	Fourth quarter	369.9	307.3	1,437.3
	Total	1,627.2	1,154.9	
1986	First quarter	155.1	58.0	766.2
	Second quarter	249.9	57.9	362.0
	Third quarter	230.0	173.3	315.7
	Fourth quarter	8.7	.8	322.6
	Total	643.7	290.0	
1987	First quarter	7.0	-33.1	67.1
	Second quarter	19.4	-112.0	47.7
	Third quarter	62.0	-94.0	94.0
	Fourth quarter	57.9	-279.9	124.7
	Total	146.3	-519.0	
1988	First quarter	46.4	-215.3	148.5
	Second quarter	155.2	-232.4	301.6
	Third quarter	140.9	-387.8	377.0
	Fourth quarter	15.4	-530.9	198.5
	Total	357.9	-1,366.4	
1989	First quarter	52.1	-203.7	140.6
	Second quarter	25.8	-107.6	148.7
	Third quarter	362.9	-48.9	490.4
	Fourth quarter	6.2	-478.3	419.5
	Total	447.0	-838.5	

TABLE 11

State Telephone Rate Cases
(Millions of Dollars)

	Revenue Increases Requested During Quarter	Revenue Changes Ordered During Quarter	Requested Increases Pending at End of Quarter
1990 First quarter	897.8	-134.6	903.6
Second quarter	58.3	-109.9	955.1
Third quarter	129.3	-316.9	1,066.8
Fourth quarter	23.8	110.3	258.6
Total	1,109.2	-451.1	
1991 First quarter	184.3	2.8	372.4
Second quarter	141.4	7.8	358.5
Third quarter	5.6	76.4	229.6
Fourth quarter	54.3	173.6	276.3
Total	385.6	-86.6	

CHANGES IN TECHNOLOGY AND EQUAL ACCESS:

1. Central Office Technology:

During the 1980's, the Bell Operating Companies replaced most of their older "electromechanical" switches with newer equipment. The newer offices use computers to switch calls. 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, in addition, telephone conversations are converted to a digital form before being passed through the switch and later reconverted to their original analog form. About half of the Bell company 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 is shown in Table 12.

The use of digital technology has allowed local telephone companies to equip most of their offices for the provision of "equal access" to competing long distance carriers. Newer signaling systems have been developed that permit calls to be set-up more quickly and efficiently. In the late 1980's, telephone company offices began to be converted to the newest system, "Signaling System 7." For several years the telephone industry has been working to develop standards for 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. ISDN, however, has not yet been deployed except on an experimental basis. The number of offices and lines equipped for these features are shown in Table 13. [1]

[1] Tables 12 and 13 use projections for 1989 and later years. Since these table were prepared, the companies have filed updated data for 1989 and 1990. These are available on a state-by-state basis in the Annual Infrastructure Reports (Report 43.07) filed by carriers subject to price caps. Because there are no significant differences between the projected totals and the totals subsequently filed, Tables 12 and 13 have not been restated.

Table 12

Central Offices and Access Lines by Technology:

All Bell Operating Companies

Year	Total Offices	Electromechanical Offices	%	Analog Stored Program Control Offices	%	Digital Stored Program Control Offices	%
1980	9,195	6,842	74.4%	2,353	25.6%	0	0.0%
1981	9,229	6,668	72.3	2,536	27.5	25	0.3
1982	9,207	6,381	69.3	2,741	29.8	85	0.9
1983	9,196	6,102	66.4	2,916	31.7	178	1.9
1984	9,145	5,743	62.8	3,048	33.3	354	3.9
1985	9,169	5,275	57.5	3,022	33.0	872	9.5
1986	9,181	4,605	50.2	2,920	31.8	1,656	18.0
1987	9,237	3,853	41.7	2,820	30.5	2,564	27.8
1988	9,348	3,068	32.8	2,674	28.6	3,606	38.6
1989*	9,389	2,457	26.2	2,493	26.6	4,439	47.3
1990*	9,406	1,746	18.6	2,278	24.2	5,382	57.2
1991*	9,393	1,243	13.2	2,124	22.6	6,026	64.2
1992*	9,373	870	9.3	1,989	21.2	6,514	69.5
1993*	9,375	705	7.5	1,866	19.9	6,804	72.6
1994*	9,366	556	5.9	1,736	18.5	7,074	75.5

Thousands of Access Lines Served

Year	Total Lines	Electromechanical Lines	%	Analog Stored Program Control Lines	%	Digital Stored Program Control Lines	%
1980	80,234	45,039	56.1%	35,191	43.9%	4	0.0%
1981	82,709	40,809	49.3	41,847	50.6	53	0.1
1982	83,716	36,954	44.1	46,566	55.6	196	0.2
1983	85,924	32,763	38.1	52,674	61.3	488	0.6
1984	88,546	30,180	34.1	56,333	63.6	2,033	2.3
1985	91,442	25,651	28.1	58,759	64.3	7,033	7.7
1986	93,863	20,053	21.4	59,421	63.3	14,390	15.3
1987	96,654	14,496	15.0	59,506	61.6	22,653	23.4
1988	99,524	8,972	9.0	59,716	60.0	30,835	31.0
1989*	102,648	5,933	5.8	58,845	57.3	37,870	36.9
1990*	105,844	3,345	3.2	56,954	53.8	45,454	43.0
1991*	109,228	2,121	1.9	55,459	50.8	51,647	47.3
1992*	112,476	1,301	1.2	53,558	47.6	57,617	51.2
1993*	115,700	1,076	0.9	51,970	44.9	62,654	54.2
1994*	118,961	853	0.7	50,081	42.1	68,028	57.2

* Projected in CC Docket 89-624.

Table 13

Features Available in Central Offices:

All Bell Operating Companies

Year	Total Offices	Equal Access Offices	Equal Access %	Signaling System 7 Offices	Signaling System 7 %	ISDN Offices	ISDN %
1980	9,195	0	0.0%	0	0.0%	0	0.0%
1981	9,229	0	0.0	0	0.0	0	0.0
1982	9,207	0	0.0	0	0.0	0	0.0
1983	9,196	0	0.0	0	0.0	0	0.0
1984	9,145	124	1.4	0	0.0	0	0.0
1985	9,169	1,934	21.1	0	0.0	0	0.0
1986	9,181	3,637	39.6	0	0.0	0	0.0
1987	9,237	4,839	52.4	29	0.3	4	0.0
1988	9,348	6,089	65.1	435	4.7	82	0.9
1989*	9,389	6,810	72.5	950	10.1	179	1.9
1990*	9,406	7,559	80.4	2,083	22.1	426	4.5
1991*	9,393	7,987	85.0	3,087	32.9	1,595	17.0
1992*	9,373	8,295	88.5	4,101	43.8	1,764	18.8
1993*	9,375	8,472	90.4	4,895	52.2	1,962	20.9
1994*	9,366	8,625	92.1	5,362	57.2	2,269	24.2

Thousands of Equipped Access Lines

Year	Total Lines	Equal Access Lines	Equal Access %	Signaling System 7 Lines	Signaling System 7 %	ISDN Lines	ISDN %
1980	80,234	0	0.0%	0	0.0%	0	0.0%
1981	82,709	0	0.0	0	0.0	0	0.0
1982	83,716	0	0.0	0	0.0	0	0.0
1983	85,924	0	0.0	0	0.0	0	0.0
1984	88,546	3,528	4.0	0	0.0	0	0.0
1985	91,442	46,688	51.1	0	0.0	0	0.0
1986	93,863	69,957	74.5	0	0.0	0	0.0
1987	96,654	81,381	84.2	1,035	1.1	1	0.0
1988	99,524	91,565	92.0	10,325	10.4	43	0.0
1989*	102,648	97,181	94.7	21,555	21.0	99	0.1
1990*	105,844	102,639	97.0	36,706	34.7	496	0.5
1991*	109,228	106,728	97.7	52,250	47.8	1,059	1.0
1992*	112,476	110,548	98.3	66,394	59.0	1,370	1.2
1993*	115,700	114,246	98.7	78,645	68.0	1,888	1.6
1994*	118,961	117,778	99.0	86,964	73.1	2,218	1.9

* Projected in CC Docket 89-624.

2. Equal Access:

The Bell Operating Companies serve about 75% of the nation's telephone lines. Under the Modification of Final Judgment that settled the AT&T antitrust case, the Bell Operating Companies are obligated to offer equal access to all long distance carriers. The process began in 1984 and the Bell Operating Companies have converted well over 95% of their lines to equal access. The remaining lines are at smaller, older offices where equal access is being provided when the offices are converted to more modern equipment. Independent telephone companies, which serve 25% of the nation's lines, are converting offices to equal access at a less rapid pace. Overall, about 90% of the nation's telephone lines have been converted to equal access.

TABLE 14

Equal Access Conversion Schedule*
(Percentage of Lines Converted)

Date	Bell Companies	Other Large Companies**	Small Companies	Total Industry
3Q84	1.1%	0.0%	0.0%	0.9%
4Q84	3.8	1.5	0.0	3.2
1Q85	12.1	2.4	0.0	9.8
2Q85	26.9	3.7	0.0	21.4
3Q85	43.0	4.0	0.0	34.0
4Q85	50.9	4.9	0.5	40.2
1Q86	56.8	11.9	2.7	46.0
2Q86	61.9	18.4	4.0	51.0
3Q86	71.5	27.4	5.9	59.9
4Q86	74.3	38.3	7.1	63.8
1Q87	76.4	45.3	9.1	66.6
2Q87	77.7	50.9	10.9	68.7
3Q87	80.4	57.9	12.7	72.0
4Q87	84.7	64.0	14.9	76.3
1Q88	86.5	66.2	15.8	78.1
2Q88	87.4	68.5	17.3	79.3
3Q88	88.5	71.3	18.6	80.6
4Q88	91.3	74.1	20.3	83.4
1Q89	92.6	76.5	22.0	84.8
2Q89	93.4	77.6	23.1	85.7
3Q89	94.1	79.1	24.3	86.5
4Q89	95.2	80.9	25.5	87.7
1Q90	95.7	81.9	26.5	88.4
2Q90	96.0	83.3	29.0	89.0
3Q90	96.4	83.8	30.3	89.5
4Q90	96.9	85.6	33.1	90.4
1Q91	97.1	85.9	33.8	90.6
2Q91	97.2	86.5	35.3	90.9

* Large company data from Tarrif Review Plans filed November 12, 1987; December 30, 1988; and April 2, 1990. Small company and total industry data based on Industry Analysis Division estimates.

** Companies with $100 million in annual operating revenues.

TELEPHONE LINES AND CALLING VOLUMES:

1. Telephone 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 easily reconcile data from different statistical series, they are not usually large enough to affect comparisons among companies or trends over time.

Table 15 shows the nation's total number of local loops during each of the most recent years for which data is available. With virtually all businesses having telephone lines and more than 90% of the nation's households having telephone service, the growth in the number of lines tends to reflect growth in the population and the economy -- averaging about 3% per year.

There are about 1300 local telephone companies in the United States. Table 16 shows the number of companies and the number of switched access lines in each state.

Table 15

Total U.S. Telephone Lines
(Local Loops)

	Loops	Annual Growth
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
1985	116,042,281	3.1
1986	118,345,686	2.0
1987	123,010,150	3.9
1988	127,087,323	3.3
1989	131,623,290	3.6
1990	136,184,917	3.5

* Not Available

Table 16
Local Telephone Companies and Access Lines
by State as of December June 30, 1991

State	Study Areas	Bell Company Lines	Other Company Lines	Total Lines
Alabama	30	1,479,763	363,996	1,843,759
Alaska	25	0	270,691	270,691
Arizona	11	1,759,314	103,124	1,862,438
Arkansas	28	713,296	334,707	1,048,003
California	22	13,337,152	3,741,605	17,078,757
Colorado	27	1,836,869	34,236	1,871,105
Connecticut	2	0	1,839,739	1,839,739
Delaware	1	388,086	0	388,086
District of Col.	1	779,597	0	779,597
Florida	13	4,422,289	3,086,104	7,508,393
Georgia	36	2,713,753	529,206	3,242,959
Hawaii	1	0	528,929	528,929
Idaho	20	364,015	113,416	477,431
Illinois	55	5,179,195	1,093,301	6,272,496
Indiana	42	1,627,336	1,025,990	2,653,326
Iowa	153	876,564	469,295	1,345,859
Kansas	40	1,040,993	215,388	1,256,381
Kentucky	19	920,201	671,265	1,591,466
Louisiana	20	1,758,395	134,009	1,892,404
Maine	19	542,003	100,118	642,121
Maryland	2	2,665,457	4,658	2,670,115
Massachusetts	3	3,506,967	3,317	3,510,284
Michigan	38	4,109,736	734,018	4,843,754
Minnesota	91	1,735,276	553,844	2,289,120
Mississippi	18	946,480	61,909	1,008,389
Missouri	44	1,951,439	627,337	2,578,776
Montana	17	307,973	86,337	394,310
Nebraska	42	425,686	376,640	802,326
Nevada	13	209,477	501,591	711,068
New Hampshire	12	567,967	38,390	606,357
New Jersey	3	4,759,009	150,070	4,909,079
New Mexico	14	582,799	94,764	677,563
New York	45	9,177,012	1,008,309	10,185,321
North Carolina	28	1,662,820	1,657,399	3,320,219
North Dakota	24	244,023	91,454	335,477
Ohio	44	3,154,203	2,140,855	5,295,058
Oklahoma	39	1,268,315	269,572	1,537,887
Oregon	34	998,794	464,088	1,462,882
Pennsylvania	39	4,977,802	1,426,514	6,404,316
Rhode Island	1	522,318	0	522,318
South Carolina	28	1,072,845	519,491	1,592,336
South Dakota	31	241,978	73,733	315,711
Tennessee	25	1,937,362	464,246	2,401,608
Texas	56	6,482,902	1,822,398	8,305,300
Utah	13	709,772	28,363	738,135
Vermont	9	262,154	49,718	311,872
Virginia	21	2,442,170	783,321	3,225,491
Washington	23	1,844,402	777,490	2,621,892
West Virginia	10	602,402	124,773	727,175
Wisconsin	95	1,670,536	839,364	2,509,900
Wyoming	10	213,687	17,901	231,588
United States	1437	100,992,584	30,446,983	131,439,567
Puerto Rico	2	0	923,076	923,076
Virgin Islands	1	0	45,965	45,965
Grand Total	1440 *	100,992,584	31,416,024	132,408,608

* A "study area" is a telephone company's service area in a particular state. Companies that serve more than one state have a study area in each state. The number of study areas therefore overstates the total number of operating companies. There are about 1400 operating companies.

2. Minutes of Calling:

As in the case of telephone lines, there are many 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.

Dial equipment minutes are shown in Table 17. Dial equipment minutes are measured as calls enter and leave telephone switches. Therefore, two DEM minutes are counted for every conversation minute. The volume of local calls has grown at approximately the same rate as the number of local telephone lines. In contrast, the volume of long distance calling has surged as prices have fallen. As a result, an ever greater portion of calls are long distance. By 1990, 14% of all minutes were interstate compared with fewer than 8% in 1980.

Table 17

Dial Equipment Minutes

(Billions of Minutes)

	Local	Intrastate Toll	Interstate Toll	Total
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	1,717	254	296	2,267
1988	1,796	268	321	2,385
1989	1,828	286	344	2,458
1990	1,852	299	354	2,505

(Increase over Prior Year)

1981	2.3%	6.9%	7.8%	3.1%
1982	3.2	5.0	7.3	3.7
1983	3.1	5.1	9.6	3.8
1984	3.2	19.2	22.9	6.3
1985	2.1	12.2	20.2	4.9
1986	1.6	6.5	8.0	2.9
1987	1.0	7.2	9.3	2.7
1988	4.6	5.5	8.6	5.2
1989	1.8	6.7	7.2	3.1
1990	1.3	4.5	2.9	1.9

(Percentage Distribution)

1980	84.2%	8.1%	7.7%	100.0%
1981	83.5	8.4	8.1	100.0
1982	83.1	8.5	8.3	100.0
1983	82.5	8.6	8.8	100.0
1984	80.1	9.7	10.2	100.0
1985	78.0	10.4	11.7	100.0
1986	77.0	10.7	12.3	100.0
1987	75.8	11.2	13.0	100.0
1988	75.3	11.2	13.5	100.0
1989	74.4	11.6	14.0	100.0
1990	73.9	11.9	14.1	100.0

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-like calls. It excludes calls made on private telecommunications systems, on leased lines, and minutes on the "closed end" of WATS-like calls.

Table T8 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, price reductions, and extensive advertising. Premium minutes have grown rapidly, reflecting both strong underlying traffic growth and the conversion of offices to equal access. Non-premium minutes (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 continues. Telephone industry traffic experts usually 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, for reasons that are far from clear, reported changes in access minutes are not entirely consistent with reported changes in DEM minutes.

Table 18

Interstate Switched Access Minutes
(in Billions)

	Premium Minutes	Non-Premium Minutes	Total Minutes
1984: Third Quarter	32.0	5.5	37.5
Fourth Quarter	33.6	6.0	39.6
1985: First Quarter	32.9	6.6	39.6
Second Quarter	34.9	6.6	41.5
Third Quarter	36.6	6.2	42.8
Fourth Quarter	38.0	5.3	43.3
1986: First Quarter	38.8	4.3	43.0
Second Quarter	41.0	3.8	44.8
Third Quarter	43.2	3.5	46.7
Fourth Quarter	45.5	3.0	48.5
1987: First Quarter	48.0	3.2	51.2
Second Quarter	49.3	3.1	52.5
Third Quarter	52.1	2.9	55.0
Fourth Quarter	54.4	2.6	57.0
1988: First Quarter	56.6	2.4	59.0
Second Quarter	57.3	2.3	59.6
Third Quarter	59.8	2.3	62.1
Fourth Quarter	61.8	2.2	64.0
1989: First Quarter	64.1	2.1	66.2
Second Quarter	66.5	2.0	68.5
Third Quarter	67.7	2.0	69.7
Fourth Quarter	70.7	1.9	72.6
1990 First Quarter	72.8	1.8	74.7
Second Quarter	73.9	1.8	75.7
Third Quarter	76.0	1.8	77.8
Fourth Quarter	77.6	1.6	79.2
1991 First Quarter	77.6	1.5	79.1
Second Quarter	79.7	1.4	81.1
Third Quarter	80.5	1.3	81.9
Increase over Prior Year:			
1986	18.3%	-41.0%	9.5%
1987	21.0	-18.8	17.8
1988	15.5	-22.5	13.4
1989	14.3	-13.0	13.3
1990	11.6	-12.1	11.0

LONG DISTANCE CARRIERS:

Carrier Identification Codes, 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 three digit Carrier Identification Code so that traffic can be efficiently routed.

We believe 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. In 1986, however, a number of corporations, government agencies and other organizations began to buy access for their own use, rather than for the purpose of providing telecommunications services to others.

Table 19

Number of Firms with Carrier Identification Codes

June 30, 1982:	13	June 30, 1987:	397
December 31, 1982:	11	December 31, 1987:	451
June 30, 1983:	25	June 30, 1988:	489
December 31, 1983:	42	December 31, 1988:	493
June 30, 1984:	65	June 30, 1989:	544
December 31, 1984:	123	December 31, 1989:	577
June 30, 1985:	179	June 30, 1990:	611
December 31, 1985:	217	December 31, 1990:	601
June 30, 1986:	276	June 30, 1991:	597
December 31, 1986:	334	December 31, 1991:	631

The exact number of long distance carriers is difficult to determine for several reasons: Many carriers have similar names. Some carriers use different names in different regions. Smaller telecommunications firms seem to experience the high turnover rates experienced by other small businesses. The billing records from which the data is compiled are not always corrected to reflect changed corporate names and mergers. Some billing systems do not distinguish between carriers and other access purchasers. Using several sources, we have tried to make the best judgement in putting together the following tables. Prior to 1990, we did not attempt to identify and eliminate the small number of non-carriers from the data. However, we have attempted to do so beginning with the data for March 1990.

Table 20 shows the number of long distance carriers that purchase any form of switched access. Table 21 contains similar information for firms that purchase equal access.

TABLE 20

COMPANIES PURCHASING ANY FORM OF SWITCHED ACCESS

YEAR	MONTH	TOTAL FIRMS PURCHASING SWITCHED ACCESS	LONG DISTANCE CARRIERS PURCHASING SWITCHED ACCESS
1986	MARCH	*	*
	JUNE	*	*
	SEPTEMBER	506	*
	DECEMBER	533	*
1987	MARCH	561	*
	JUNE	*	*
	SEPTEMBER	*	*
	DECEMBER	540	*
1988	MARCH	511	*
	JUNE	519	*
	SEPTEMBER	506	*
	DECEMBER	510	*
1989	MARCH	519	*
	JUNE	*	*
	SEPTEMBER	*	*
	DECEMBER	514	*
1990	MARCH	512	466
	JUNE	506	460
	SEPTEMBER	511	462
	DECEMBER	499	448
1991	MARCH	505	446
	JUNE	542	441
	SEPTEMBER	538	455

* DATA NOT AVAILABLE

TABLE 21

COMPANIES PURCHASING EQUAL ACCESS

YEAR	MONTH	TOTAL PURCHASERS OF EQUAL ACCESS	LONG DISTANCE CARRIERS PURCHASING EQUAL ACCESS
1986	MARCH	169	*
	JUNE	183	*
	SEPTEMBER	190	*
	DECEMBER	210	*
1987	MARCH	211	*
	JUNE	213	*
	SEPTEMBER	224	*
	DECEMBER	239	*
1988	MARCH	238	*
	JUNE	248	*
	SEPTEMBER	256	*
	DECEMBER	266	*
1989	MARCH	274	*
	JUNE	287	*
	SEPTEMBER	304	*
	DECEMBER	318	*
1990	MARCH	295	289
	JUNE	294	288
	SEPTEMBER	311	304
	DECEMBER	311	304
1991	MARCH	314	306
	JUNE	342	327
	SEPTEMBER	352	337

* DATA NOT AVAILABLE

Most small carriers purchase access in only one state, providing nationwide service from the area in which they operate by reselling services purchased from other carriers. Table 22 shows the evolution of larger carriers that purchase equal access.

TABLE 22

NUMBER OF LONG DISTANCE CARRIERS PURCHASING EQUAL ACCESS
IN FOUR OR MORE STATES

YEAR	MONTH	CARRIERS SERVING 45 OR MORE STATES	CARRIERS SERVING 25 TO 44 STATES	CARRIERS SERVING 12 TO 24 STATES	CARRIERS SERVING 4 TO 11 STATES	TOTAL CARRIERS SERVING 4 OR MORE STATES
1986	MARCH	2	6	1	14	23
	JUNE	2	6	1	14	23
	SEPTEMBER	3	5	1	15	24
	DECEMBER	3	5	1	14	23
1987	MARCH	3	5	1	18	27
	JUNE	3	4	2	20	29
	SEPTEMBER	3	4	2	19	28
	DECEMBER	3	3	4	16	26
1988	MARCH	3	5	4	12	24
	JUNE	4	4	4	18	30
	SEPTEMBER	4	5	3	17	29
	DECEMBER	4	5	3	21	33
1989	MARCH	4	6	3	24	37
	JUNE	5	6	4	28	43
	SEPTEMBER	5	7	7	30	49
	DECEMBER	7	5	9	34	55
1990	MARCH	7	5	8	37	57
	JUNE	7	6	9	36	58
	SEPTEMBER	6	5	9	38	58
	DECEMBER	6	3	12	37	58
1991	MARCH	6	2	14	38	60
	JUNE	5	3	15	39	62
	SEPTEMBER	5	3	16	41	65

The number of cariers purchasing access in each state is shown in Table 23. Within any state, a carrier purchasing access may concentrate its efforts in serving only a few exchanges or a small portion of the state. Thus, the number of carriers available to a particular customer will tend to be far smaller than the number of long distance carriers that purchase access somewhere in the state. Since the larger long distance carriers serve many states, they are recorded as purchasing access in each state. Because of this, the state figures can not be added to estimate a national total of long distance carriers.

TABLE 23

LONG DISTANCE CARRIERS PURCHASING ACCESS: SEPTEMBER 1991

STATE	FEATURE GROUP A	FEATURE GROUP B	FEATURE GROUP D	ANY
ALABAMA	19	19	19	32
ALASKA	N.A.	N.A.	N.A.	N.A.
ARIZONA	25	38	34	56
ARKANSAS	18	26	20	32
CALIFORNIA	54	76	51	99
COLORADO	24	42	33	61
CONNECTICUT	N.A.	28	29	39
DELAWARE	2	13	5	15
DIST OF COLUMBIA	24	34	29	47
FLORIDA	42	40	41	69
GEORGIA	49	41	29	70
HAWAII	2	7	8	12
IDAHO	4	22	20	25
ILLINOIS	49	47	40	78
INDIANA	36	31	25	48
IOWA	12	24	18	30
KANSAS	17	26	22	35
KENTUCKY	25	24	26	37
LOUISIANA	30	29	28	44
MAINE	3	12	11	13
MARYLAND	18	27	23	33
MASSACHUSETTS	35	25	23	50
MICHIGAN	44	37	32	64
MINNESOTA	23	40	28	56
MISSISSIPPI	19	15	18	28
MISSOURI	32	38	30	56
MONTANA	9	19	14	23
NEBRASKA	7	24	18	27
NEVADA	6	29	28	39
NEW HAMPSHIRE	6	13	12	16
NEW JERSEY	29	40	32	51
NEW MEXICO	13	32	31	40
NEW YORK	51	50	34	78
NORTH CAROLINA	27	23	19	38
NORTH DAKOTA	7	14	8	17
OHIO	40	47	37	68
OKLAHOMA	25	37	29	47
OREGON	16	40	26	44
PENNSYLVANIA	31	46	35	54
RHODE ISLAND	10	23	19	36
SOUTH CAROLINA	22	18	22	33
SOUTH DAKOTA	10	14	13	21
TENNESSEE	27	32	31	50
TEXAS	65	90	86	126
UTAH	13	29	20	36
VERMONT	5	15	12	16
VIRGINIA	16	22	22	29
WASHINGTON	23	36	27	45
WEST VIRGINIA	11	13	10	14
WISCONSIN	37	32	32	57
WYOMING	6	14	11	21
UNDUPLICATED TOTAL	274	326	337	455

N.A. -- Not Available.

In January 1991, tariffs were filed by about 300 providers of operator services as required by the Telephone Operator Consumer Services Improvement Act of 1990. About 50 of these tariffs were filed by long distance carriers that have been identified as purchasing access or having presubscribed lines. The remaining tariffs were filed by firms we had not previously identified. Thus, it appears that most firms providing operator services are operating as resellers without purchasing access. At the same time, most of the carriers purchasing access in order to provide long distance service do not provide operator services.

LONG DISTANCE MARKET SHARES:

1. Minutes of Interstate Calling

Table 24 shows interstate access minutes handled by AT&T, by other carriers, and industry totals. For the period since mid-1984, industry traffic volume has grown at an annual rate of 12%. AT&T's traffic has grown at a rate slower than the industry average and the remaining traffic, handled by all other carriers, grew at a rapid rate -- averaging over 25% per year.

The result of an AT&T growth rate slower than the industry average has been a declining market share for AT&T. AT&T's market share is shown in Table 25. AT&T's share of the overall market for interstate switched minutes declined from over 80% in late 1984 to 63% in late 1991. At the same time, its share of the premium market has declined from virtually 100% in late 1984 (the first scattered offices began to be converted to equal access in the summer of 1984) to about 64%.

TABLE 24

INTERSTATE SWITCHED ACCESS MINUTES BY CARRIER
(FIGURES SHOWN IN BILLIONS)

	AT&T	OTHER CARRIERS	TOTAL INDUSTRY
1984 THIRD QUARTER	31.6	5.9	37.5
FOURTH QUARTER	31.8	7.8	39.6
1985 FIRST QUARTER	32.8	6.7	39.6
SECOND QUARTER	33.3	8.2	41.5
THIRD QUARTER	33.8	9.0	42.8
FOURTH QUARTER	33.4	9.9	43.3
1986 FIRST QUARTER	34.2	8.8	43.0
SECOND QUARTER	34.7	10.1	44.8
THIRD QUARTER	35.8	10.9	46.7
FOURTH QUARTER	35.9	12.6	48.5
1987 FIRST QUARTER	37.4	13.9	51.2
SECOND QUARTER	38.6	13.8	52.5
THIRD QUARTER	39.2	15.9	55.0
FOURTH QUARTER	40.1	16.9	57.0
1988 FIRST QUARTER	41.2	17.8	59.0
SECOND QUARTER	41.1	18.5	59.6
THIRD QUARTER	42.3	19.8	62.1
FOURTH QUARTER	43.0	21.0	64.0
1989 FIRST QUARTER	44.2	22.0	66.2
SECOND QUARTER	44.4	24.1	68.5
THIRD QUARTER	44.9	24.8	69.7
FOURTH QUARTER	46.4	26.2	72.6
1990 FIRST QUARTER	47.1	27.6	74.7
SECOND QUARTER	47.1	28.7	75.7
THIRD QUARTER	48.7	29.1	77.8
FOURTH QUARTER	49.8	29.4	79.2
1991 FIRST QUARTER	49.9	29.2	79.1
SECOND QUARTER	50.5	30.6	81.1
THIRD QUARTER	51.2	30.7	81.9
INCREASE OVER PRIOR YEAR:			
1986	5.5%	25.6%	9.5%
1987	10.5%	42.2%	17.8%
1988	7.9%	27.5%	13.4%
1989	7.3%	26.1%	13.3%
1990	7.1%	18.1%	11.0%

TABLE 25

AT&T'S SHARE OF INTERSTATE MINUTES

	PREMIUM MINUTES	ALL MINUTES
1984 THIRD QUARTER	98.7%	84.2%
FOURTH QUARTER	94.6%	80.2%
1985 FIRST QUARTER	99.8%	83.0%
SECOND QUARTER	95.5%	80.3%
THIRD QUARTER	92.2%	78.9%
FOURTH QUARTER	87.9%	77.1%
1986 FIRST QUARTER	88.2%	79.5%
SECOND QUARTER	84.7%	77.5%
THIRD QUARTER	82.8%	76.6%
FOURTH QUARTER	78.9%	74.0%
1987 FIRST QUARTER	77.8%	72.9%
SECOND QUARTER	78.3%	73.7%
THIRD QUARTER	75.2%	71.2%
FOURTH QUARTER	73.7%	70.4%
1988 FIRST QUARTER	72.8%	69.8%
SECOND QUARTER	71.8%	69.0%
THIRD QUARTER	70.8%	68.2%
FOURTH QUARTER	69.6%	67.2%
1989 FIRST QUARTER	68.9%	66.8%
SECOND QUARTER	66.8%	64.8%
THIRD QUARTER	66.3%	64.4%
FOURTH QUARTER	65.6%	63.9%
1990 FIRST QUARTER	64.6%	63.0%
SECOND QUARTER	63.7%	62.1%
THIRD QUARTER	64.0%	62.6%
FOURTH QUARTER	64.2%	62.8%
1991 FIRST QUARTER	64.3%	63.1%
SECOND QUARTER	63.4%	62.2%
THIRD QUARTER	63.5%	62.5%

2. Total Toll Revenues

Long distance telephone companies with over $100 million in annual revenues report their annual revenues to the FCC. The revenues reported include both interstate and intrastate revenues. For most carriers, no information is available that separates interstate from intrastate service. In 1990, services provided by long distance carriers generated more than $50 billion in revenues. During the past few years, revenues have grown at a far slower pace than the volume of long distance calling because of sharp price cuts. Indeed, AT&T's total toll revenues have declined slightly since 1984 because the growth in calling volume was not sufficient to offset the effect of lower prices.

Long distance revenues are shown in Table 26. During 1984, AT&T's toll revenues of $35 billion accounted for about 90% of the revenues received by all long distance carriers. By 1990, with its revenues virtually unchanged, its share of total revenues had fallen to 65%. AT&T's share of revenue exceeds its share of minutes due primarily to the provision of a larger proportion of operator handled and international calls (both of which bear higher prices than ordinary direct dial calls).

The largest local telephone companies, which provide a substantial amount of intrastate toll service, also file annual reports with the Commission. The total toll market, including the short haul toll traffic handled entirely by local telephone companies, exceeded $65 billion in 1990, with AT&T accounting for 50% of the total.

TABLE 26—TOTAL TOLL SERVICE REVENUES
(DOLLAR AMOUNTS SHOWN IN MILLIONS)

COMPANY	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
AT&T COMMUNICATIONS				$34,935	$36,770	$36,514	$35,219	$35,407	$34,549	$33,860
MCI TELECOMMUNICATIONS 1/	$413	$802	$1,326	1,761	2,331	3,372	3,938	4,886	6,171	7,392
(TELECOM*USA)				105	201	291	396	524	713	
US SPRINT 2/						1,141	2,592	3,405	4,320	5,041
(GTE SPRINT)	231	393	740	1,052	1,122	779				
(US TELECOM)					387	212				
METROMEDIA COMMUNICATIONS CORP. 3/									127	381
(ITT COMMUNICATION SERVICES, INC.)	83	128	163	161	241	282	287	379	404	
WILLIAMS TELECOMMUNICATIONS GROUP									300	376
CABLE & WIRELESS					146	171	180	218	275	359
ADVANCED TELECOMMUNICATIONS CORP.				72	86	124	162	178	326	342
ALLNET 4/					309	450	395	394	334	326
(LEXITEL)					127					
TELESPHERE NETWORK, INC. 5/									192	293
(NATIONAL TELEPHONE SERVICES, INC.)			—						150	
ALASCOM	191	238	257	255	271	267	262	272	278	259
INTERNATIONAL TELECHARGE, INC.									275	230
LITEL TELECOMMUNICATIONS, INC.									197	215
LDDS COMMUNICATIONS, INC.									110	154
RCI CORPORATION/RCI NETWORK SERVICES									104	142
COMSYSTEMS NETWORK SERVICES										130
OTHERS 6/	144	263	443	414	639	992	1,352	1,823	2,359	2,582
TOTAL LONG DISTANCE CARRIERS				38,755	42,630	44,595	44,783	47,487	51,184	52,102
AT&T COMMUNICATIONS SHARE:				90.1%	86.3%	81.9%	78.6%	74.6%	67.5%	65.0%
MCI TELECOMMUNICATIONS SHARE:				4.5%	5.5%	7.6%	8.8%	10.3%	12.1%	14.2%
US SPRINT SHARE:				2.7%	2.6%	4.3%	5.8%	7.2%	8.4%	9.7%
BELL OPERATING COMPANIES				9,037	9,026	9,599	10,268	10,668	10,549	10,578
OTHER LOCAL TELEPHONE COMPANIES				3,364	3,159	3,304	3,468	4,445	4,402	4,305
TOTAL LOCAL EXCHANGE COMPANIES				12,401	12,185	12,903	13,736	15,113	14,951	14,883
TOTAL TOLL SERVICE REVENUES 7/	39,180	43,919	46,970	51,156	54,815	57,498	58,519	62,600	66,135	66,985
AT&T COMMUNICATIONS SHARE:				68.3%	67.1%	63.5%	60.2%	56.6%	52.2%	50.6%
MCI TELECOMMUNICATIONS SHARE:				3.4%	4.3%	5.9%	6.7%	7.8%	9.3%	11.0%
US SPRINT SHARE:				2.1%	2.0%	3.3%	4.4%	5.4%	6.5%	7.5%

OURCES: LOCAL EXCHANGE CARRIER INFORMATION DERIVED FROM USTA ANNUAL REPORTS.
AT&T COMMUNICATIONS AND ALASCOM — STATISTICS OF COMMUNICATIONS COMMON CARRIERS.
OTHER COMPANIES:
1981—1982: ANNUAL REPORT FORM P.
1983—1990: AS REPORTED PURSUANT TO FCC REPORT AND ORDER IN CC DOCKET 83—1291.

/ MCI TELECOMMUNICATIONS AND TELECOM*USA MERGED DURING 1989. INFORMATION FOR 1990 IS COMBINED.
/ 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 US SPRINT FOR 1986 IS FOR JULY 1 — DECEMBER 31.
/ METROMEDIA COMMUNICATIONS CORP. AND ITT COMMUNICATIONS CORP. MERGED DURING 1988. INFORMATION FOR 1989 WAS REPORTED SEPARATELY; INFORMATION FOR 1990 IS COMBINED.
/ ALLNET AND LEXITEL MERGED AT THE END OF 1985. INFORMATION FOR 1986 IS COMBINED.
/ TELESPHERE NETWORK, INC., AND NATIONAL TELEPHONE SERVICES, INC., MERGED DURING 1989. INFORMATION FOR 1990 IS COMBINED.
/ ESTIMATED BY FCC STAFF.
/ WHILE TOTAL TOLL REVENUES ARE AVAILABLE PRIOR TO 1984, THE MANNER IN WHICH THEY WERE DIVIDED BETWEEN THE BELL SYSTEM AND OTHER TELEPHONE COMPANIES MAKES IT IMPOSSIBLE TO ACCURATELY DETERMINE THE AMOUNTS BILLED BY WHAT IS NOW AT&T COMMUNICATIONS, THE BELL COMPANIES, AND OTHER TELEPHONE COMPANIES.

3. "Presubscribed" Lines

Telephone lines are said to be "presubscribed" to the long distance carrier that receives the ordinary long distance calls placed on the line. Where equal access is available, each customer is asked to choose a long distance carrier. Thereafter, all of the customer's long distance calls will be routed to the chosen long distance carrier unless the customer alters normal dialing procedure -- for example, accessing an alternate long distance carrier by dialing special codes. Where equal access is not yet available, the use of long distance carriers other than AT&T usually requires dialing a 7 digit local telephone number and entering a personal identification number. In areas where equal access is not yet available, all lines are considered to be presubscribed to AT&T.

The National Exchange Carrier Association (NECA) provides information on the number of lines presubscribed to each long distance carrier. NECA collects the information from each local telephone company in order to comply with FCC rules that require NECA to recover certain expenses from the larger long distance carriers. This information is shown in Table 27.

NECA reports that, in December 1990, there were 132 million presubscribed lines in the United States. Special access lines, WATS lines, and other specialized lines are not included in the counts of presubscribed lines. The number of lines presubscribed to AT&T has remained roughly the same while the number of lines presubscribed to other carriers has grown rapidly. During 1990, about 76% of these lines were presubscribed to AT&T, 13% to MCI, and 6% to US Sprint. About three hundred smaller carriers, serving a total of 6 million lines, account for the remainder of the industry.

AT&T's percentage of lines is higher than its share of revenues or minutes because all lines in areas that do not yet have equal access are counted as AT&T lines. Also, many customers who make few long distance calls have not chosen an alternative carrier and, as a result, the number of calls per customer line is far lower for AT&T than for other carriers.

TABLE 27

"PRESUBSCRIBED" TELEPHONE LINES BY CARRIER

	DEC 1987	JUNE 1988	DEC 1988	JUNE 1989	DEC 1989	JUNE 1990	DEC 1990
TOTAL NUMBER OF CARRIERS WITH PRESUBSCRIBED LINES	223	242	253	276	302	314	325
NUMBER OF PRESUBSCRIBED LINES:							
AT&T	101,652,678	100,832,869	100,205,677	100,006,827	99,396,609	99,612,725	100,061,611
MCI	9,990,561	10,941,207	12,149,921	13,671,625	15,055,643	16,864,001	17,434,898
US SPRINT	5,836,179	6,382,372	7,197,136	7,674,605	8,167,638	8,148,013	8,743,988
OTHER CARRIERS	3,987,082	4,508,967	4,808,095	5,393,478	5,862,589	6,152,276	6,168,111
TOTAL INDUSTRY LINES	121,466,500	122,665,415	124,360,829	126,746,535	128,482,479	130,777,015	132,408,608
ANNUAL CHANGE:							
AT&T	–	–	–1.42%	–0.82%	–0.81%	–0.39%	0.67%
MCI	–	–	21.61%	24.96%	23.92%	23.35%	15.80%
US SPRINT	–	–	23.32%	20.25%	13.48%	6.17%	7.06%
OTHER CARRIERS	–	–	20.59%	19.62%	21.93%	14.07%	5.21%
TOTAL INDUSTRY LINES	–	–	2.38%	3.33%	3.31%	3.18%	3.06%
PERCENTAGE SHARE OF TOTAL LINES:							
AT&T	83.69%	82.20%	80.58%	78.90%	77.36%	76.17%	75.57%
MCI	8.22%	8.92%	9.77%	10.79%	11.72%	12.90%	13.17%
US SPRINT	4.80%	5.20%	5.79%	6.06%	6.36%	6.23%	6.60%
OTHER CARRIERS	3.28%	3.68%	3.87%	4.26%	4.56%	4.70%	4.66%
TOTAL INDUSTRY LINES	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

LIFELINE ASSISTANCE PROGRAMS:

The FCC has established two types of assistance programs for low income subscribers. Programs of the first type are designed to assist poor subscribers in affording the monthly costs of service, and are called "lifeline" plans. Other programs -- connection assistance or "Link Up" programs -- are designed to help low income subscribers defray installation charges in order to begin receiving telephone service. Participating states have wide latitude in selecting means tests and shaping the benefits of the programs. By late 1991, programs had been established in 48 states, the District of Columbia, the Commonwealth of Puerto Rico, and the Virgin Islands. The states, and the date of FCC certification for each program, are indicated in Table 28.

Table 28

Lifeline and Connection Assistance Programs:
Date of Approval*

State	Lifeline	Link Up
Alabama		10/01/87
Arizona	11/14/86	1/15/88
Arkansas	5/22/86	10/01/87
California	1/01/85**	
Colorado	5/15/90***	1/16/90***
Connecticut		11/13/87
Distict of Columbia	3/18/86	8/19/87
Florida		8/01/88
Georgia	2/25/91	5/25/90
Hawaii	10/27/86	8/07/89
Idaho	7/24/87	9/07/88
Illinois	11/08/90****	9/18/89****
Indiana		4/25/88
Iowa		3/10/88
Kansas		1/27/88
Kentucky		1/24/87
Louisiana		10/25/88
Maine	8/11/87	8/11/87
Maryland	5/22/86	10/01/87
Massachusetts	2/09/90	2/09/90
Michigan	1/24/89	1/24/89
Minnesota	1/27/88	1/27/88
Mississippi	1/14/91	4/27/88
Missouri	10/01/87	12/28/87
Montana	8/11/87	8/11/87
Nebraska		3/17/88
Nevada	4/28/87	8/16/88
New Hampshire		11/03/88
New Jersey		11/03/87
New Mexico	7/13/87	4/01/87
New York	3/14/87	3/14/87

Table 28
Continued

Lifeline and Connection Assistance Programs:
Date of Approval*

State	Lifeline	Link Up
North Carolina	5/22/86	10/19/87
North Dakota	12/24/87	12/18/89
Ohio	7/01/87	10/01/87
Oklahoma	—	4/09/90
Oregon	5/22/86	5/05/88
Pennsylvania		6/02/88
Puerto Rico		11/17/88
Rhode Island	9/21/87	9/21/87
South Carolina		12/24/87
South Dakota	2/25/88	2/25/88
Tennessee	1/08/92	11/03/88
Texas	4/08/88	10/01/87
Utah	12/31/86	3/17/88
Vermont	9/30/86	2/09/90
Virgin Islands	11/05/91	11/05/91
Virginia	12/24/87	12/24/87
Washington	7/24/87	8/17/90
West Virginia	7/25/86	9/11/87
Wisconsin	7/14/88	11/08/90
Wyoming	5/21/91	1/24/89

* The approval date reflects the first plan approved in each state. In some instances, several companies have received approval at different times.

** California is the only state still offering a lifeline program under Plan 1 (a 50% waiver of the Subscriber Line Charge).

*** These programs replace earlier programs terminated as a result of legislative sunset provisions.

**** Programs terminated by Illinois Commerce Commission in February 1991.

* * * * *

The statistical data presented above provides a brief summary of several types of information collected by the FCC's Industry Analysis Division. In most cases, the reports underlying this summary provide a greater level of detail and are available in the Division's Public Reference Room, Plaza Level, 1250 23rd Street, N.W., Washington, D.C. For more information, the following individuals may be contacted at (202) 632-0745:

Telephone Penetration Levels:	Alexander Belinfante
Prices and Rates:	Jim Lande
State Rate Cases:	Linda Blake or Adrianne Brent
Consumer Expenditures:	Jim Lande
Technology and Equal Access:	Ramses Mina
Lines and Calling Volumes:	Alexander Belinfante
Long Distance Companies and CIC Codes:	Katie Rangos
Access Minutes and Market Shares:	Linda Blake
Lifeline Assistance Programs:	Mary Green or Larry Povich