1997, relevant definitions were clarified further. These changes have been reflected in filed data starting with the 1997 calendar year. The raw data are now filed annually in April of each year.

The Data

The data presented in this section summarize the most recent ARMIS 43-05 and 43-06 carrier reports.[10] Tables in this year's summary include data from the regional Bell operating companies, Sprint and all other reporting incumbent local exchange carriers.[11] Tables 9.1(a), 9.2(a), 9.3(a), 9.4 and 9.5 cover data for the Bell operating companies, or mandatory price cap companies, and Tables 9.1(b), 9.2(b) and 9.3(b) cover data for smaller non-mandatory price-cap companies. These companies report quality of service data at a study area level which generally represents operations within a given state. Although the companies provide selected company aggregate data, the tables of this section contain summary data recalculated by FCC staff as the composite aggregate of all study areas for each listed entity. This section also includes a fairly extensive summary of data about individual switching outages, including outage durations and numbers of lines affected, for which no company calculated summaries are provided. Switch outage data have also been aggregated to the company level for inclusion in the tables.

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with implementation of the Telecommunications Act of 1996 are as follows: Implementation of the Telecommunications Act of 1996: Reform of Filing Requirements and Carrier Classifications, CC Docket No. 96-193, Order and Notice of Proposed Rulemaking, 11 FCC Rcd 11716 (1996); Revision of ARMIS Quarterly Report (FCC Report 43-01) et al., CC Docket No. 96-193, Order, 11 FCC Rcd 22508 (1996); Policy and Rules Concerning Rates for Dominant Carriers, CC Docket No. 87-313, Memorandum Opinion and Order, 12 FCC Rcd 8115 (1997); Revision of ARMIS Annual Summary Report (FCC Report 43-01) et al., AAD No. 95-91, Order, 12 FCC Rcd 21831 (1997).

10 Source data used in preparing this section may be useful for further investigation and can be readily extracted from the ARMIS 43-05 and 43-06 tables on the online database maintained on the FCC website at www.fcc.gov/wcb/eafs. The data are also available from Best Copy and Printing, Inc at (202) 488-5300. A number of prior-year data summary reports are available through the FCC's Reference Information Center (Courtyard Level) at 445 12th Street, SW, Washington, D.C. 20554.

11 In February 1992, United Telecommunications Inc. became Sprint Corporation (Local Division); and in March 1993, Sprint Corporation acquired Centel Corporation. Bell Atlantic and NYNEX merged in August 1997, and then merged with GTE in 2000. Verizon Communications is shown separately for GTE, Verizon North (the former NYNEX companies), and Verizon South (the former Bell Atlantic Companies). Pacific Telesis, Ameritech, and SNET are shown separately despite the merger of SBC and Pacific Telesis in April 1997, SBC and SNET in October 1998, and SBC and Ameritech in October 1999. Following the recent merger of SBC and AT&T, the name SBC was changed to AT&T.

The company-level quality of service data included in the tables of this section are derived by calculating sums or weighted averages of data reported at the study area level. In particular, where companies report study area information in terms of percentages or average time intervals, this section presents company composites that are calculated by weighting the percentage or time interval figures from all study areas within that company. For example, we weight the percent of commitments met by the corresponding number of orders provided in the filed data.[12]

In the case of outage data summarized in Tables 9.2, and 9.3, we calculate a number of useful statistics from raw data records for individual switches with outages lasting more than two minutes. These statistics include the total number of events lasting more than two minutes, the average outage duration, the average number of outages per hundred switches, the average number of outages per million access lines, and the average outage line-minutes per thousand access lines and per event. Outage line-minutes is a measure that combines both duration and number of lines affected in a single parameter. We derive this parameter from the raw data by multiplying the number of lines involved in each outage by the duration of the outage and summing the resulting values. We then divide the resulting sum by the total number of thousands of access lines or of events to obtain average outage line-minutes per access line and average outage line minutes per event respectively.

The tables contained in this section cover data for 2005. Table 9.1 provides installation, maintenance and customer complaint data. The installation and maintenance data are presented separately for local services provided to end users and access services provided to interexchange carriers. Table 9.2 shows switch downtime and trunk servicing data. Table 9.3 shows outage data by cause. Table 9.4 presents the percentages of residential, small business and large business customers indicating dissatisfaction with BOC installations, repairs and business offices, as determined by BOC customer perception surveys.[13] Table 9.5 shows the underlying survey sample sizes.

More detailed information on the raw data from which this section has been developed may be found on the Commission's ARMIS web page cited earlier. Tables 9.4 and 9.5 were prepared from data filed only by the Bell operating companies in the ARMIS 43-06 report. The statistics

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12 Although companies have prepared their own company composites, we have recalculated a number of them from study area data for presentation in the tables to assure that company averages are calculated in a consistent manner. We weight data involving percentages or time intervals in order to arrive at consistent composite data shown in the tables. Parameters used for weighting in this section were appropriate for the composite being calculated and were based on the raw data filed by the carriers but are not necessarily shown in the tables. For example, we calculate composite installation interval data by multiplying the average installation interval at the individual study area level by the number of orders in that study area, summing the results for all study areas, and then dividing that sum by the total number of orders.

13 Customer satisfaction data, collected in the 43-06 report and summarized in Tables 9.4 and 9.5, are required to be reported only by the mandatory price-cap carriers.

presented in Tables 9.4 and 9.5 are straightforward and reflect the data in the format filed. Complete data descriptions are available in several Commission orders.[14]

14 See supra note 9.

Table 9.1 (a)
Installation, Maintenance, & Customer Complaints
Bell Companies - 2005

	BellSouth	Qwest	AT&T Ameritech	AT&T Pacific	AT&T Southwestern	AT&T SNET	Verizon North	Verizon South	Verizon GTE
ACCESS SERVICES PROVIDED TO CARRIERS -- SWITCHED ACCESS									
Percent Installation Commitments Met	100.0	99.1	99.3	99.1	96.2	98.0	99.9	99.7	91.9
Average Installation Interval (days)	18.8	14.9	24.9	29.5	22.5	26.4	37.7	16.9	26.7
Average Repair Interval (hours)	0.6	1.4	8.7	7.0	3.5	2.6	13.6	5.6	14.7
ACCESS SERVICES PROVIDED TO CARRIERS -- SPECIAL ACCESS									
Percent Installation Commitments Met	99.8	97.2	96.3	97.0	97.7	99.3	91.7	91.7	91.3
Average Installation Interval (days)	15.1	9.5	18.7	17.0	17.8	15.8	22.6	16.7	19.8
Average Repair Interval (hours)	3.1	3.4	4.3	5.7	3.7	3.6	5.2	3.7	12.1
LOCAL SERVICES PROVIDED TO RESIDENTIAL AND BUSINESS CUSTOMERS									
Percent Installation Commitments Met	97.4	99.5	98.5	99.1	99.1	99.6	99.1	98.5	97.7
Residence	98.7	99.6	98.6	99.2	99.1	99.6	99.1	98.7	98.0
Business	88.5	98.9	98.5	98.3	98.8	99.3	98.5	97.0	94.7
Average Installation Interval (days)	1.7	0.3	1.4	1.6	2.2	1.5	0.8		0.9
Residence	1.3	0.3	1.4	1.5	2.1	1.0	0.7	1.2	0.8
Business	2.0	0.7	1.3	2.2	2.4	3.8	1.2	2.0	2.3
Average Out of Service Repair Interval (hours)	42.2	18.2	15.9	43.4	23.5	29.7	29.0	34.1	26.0
Residence	44.8	18.8	16.3	45.3	24.5	30.6	31.1	37.8	28.4
Business	29.2	16.0	13.6	33.9	17.3	23.6	20.7	15.2	12.9
Initial Trouble Reports per Thousand Lines	307.3	112.6	144.3	129.4	173.3	184.9	189.1	145.2	189.4
Total MSA	302.2	127.8	143.9	128.9	166.7	183.5	181.3	139.9	180.4
Total Non MSA	336.8	39.3	149.0	145.3	206.8	199.4	267.8	216.3	226.9
Total Residence	358.8	132.3	203.5	182.7	211.8	238.8	235.4	196.7	223.9
Total Business	182.6	70.1	58.6	49.6	86.2	73.4	106.3	63.8	108.8
Troubles Found per Thousand Lines	208.4	87.9	109.2	106.2	139.1	110.4	147.5	109.7	150.9
Repeat Troubles as a Pct. of Trouble Reports	18.8%	20.2%	15.0%	11.4%	21.2%	17.4%	20.9%	21.8%	16.5%
Res. Complaints per Mill. Res. Access Lines	209.1	124.1	16.6	38.6	33.6	31.3	111.9	514.2	252.0
Bus. Complaints per Mill. Bus. Access Lines	66.1	37.5	7.3	8.0	9.0	9.5	33.0	56.2	70.1

NA: Not available

Please refer to text for notes and data qualifications

Table 9.1 (b)
Installation, Maintenance, & Customer Complaints
Other Price-Cap Companies - 2005

	Alltel	CenturyTel	Cincinnati Bell	Citizens	Citizens Frontier	Iowa Telecom	Sprint	Valor
ACCESS SERVICES PROVIDED TO CARRIERS -- SWITCHED ACCESS								
Percent Installation Commitments Met	99.8	91.5	99.9	76.8	98.7	67.2	89.6	85.8
Average Installation Interval (days)	4.6	16.1	16.0	22.1	24.0	14.3	13.2	25.3
Average Repair Interval (hours)	3.4	21.2	NA	7.4	3.8	27.6	2.3	3.0
ACCESS SERVICES PROVIDED TO CARRIERS -- SPECIAL ACCESS								
Percent Installation Commitments Met	96.6	91.9	98.2	79.2	89.7	75.7	93.6	89.5
Average Installation Interval (days)	7.5	17.1	17.4	13.3	20.6	3.9	11.3	17.5
Average Repair Interval (hours)	3.0	24.6	3.4	15.4	13.6	22.9	4.8	3.1
LOCAL SERVICES PROVIDED TO RESIDENTIAL AND BUSINESS CUSTOMERS								
Percent Installation Commitments Met	98.5	94.9	99.5	93.8	99.2	97.8	97.0	97.6
Residence	98.8	94.8	99.6	93.8	99.2	97.8	97.2	97.6
Business	94.3	95.3	99.0	94.1	99.1	96.5	95.3	97.6
Average Installation Interval (days)	2.7	1.4	2.4	2.9	5.3	1.8	1.8	2.2
Residence	2.6	1.4	2.0	2.7	5.0	1.7	1.6	2.2
Business	3.6	1.4	5.0	3.8	6.9	2.6	2.7	2.2
Average Out of Service Repair Interval (hours)	13.4	16.4	28.7	18.0	17.3	11.1	23.6	20.4
Residence	13.6	16.4	29.3	18.1	17.6	11.3	23.8	21.1
Business	11.3	15.6	18.1	17.4	15.5	8.8	22.2	15.4
Initial Trouble Reports per Thousand Lines	128.2	231.1	126.0	325.1	269.0	155.4	221.1	479.8
Total MSA	115.6	217.2	126.0	NA	235.8	159.1	200.1	447.2
Total Non MSA	140.2	243.8	NA	325.1	306.9	154.4	268.4	506.3
Total Residence	181.6	272.5	160.1	358.2	329.0	177.7	270.2	570.8
Total Business	41.9	110.5	52.1	223.0	138.4	79.2	99.3	239.6
Troubles Found per Thousand Lines	106.9	194.4	117.8	272.8	215.5	140.3	149.2	455.8
Repeat Troubles as a Pct. of Trouble Reports	15.3%	31.3%	12.0%	20.3%	11.5%	18.1%	22.7%	6.4%
Res. Complaints per Mill. Res. Access Lines	186.6	721.5	557.8	896.5	660.9	16.6	74.8	223.4
Bus. Complaints per Mill. Bus. Access Lines	33.5	316.0	52.0	179.7	57.6	0.0	17.3	81.1

NA: Not available

Please refer to text for notes and data qualifications

Table 9.2 (a)
Switch Downtime & Trunk Blocking
Bell Companies - 2005

	BellSouth	Qwest	AT&T Ameritech	AT&T Pacific	AT&T Southwestern	AT&T SNET	Verizon North	Verizon South	Verizon GTE
Total Access Lines in Thousands	19,625	12,817	16,050	15,589	13,034	1,941	14,370	19,150	14,402
Total Trunk Groups	2,538	1,531	890	1,204	687	89.0	741	940	1,545
Total Switches	1,614	1,318	1,439	779	1,639	160	1,285	1,352	2,406
Switches with Downtime									
Number of Switches	37	181	5	18	19	2	13	7	47
As a Percentage of Total Switches	2.3%	13.7%	0.3%	2.3%	1.2%	1.3%	1.0%	0.5%	2.0%
Average Switch Downtime in Seconds per Switch*									
For All Events	17195.5	79.2	4.3	0.3	646.7	0.2	39.6	20.0	137.5
For Unscheduled Events Over 2 Minutes	17193.2	75.1	4.3	NA	646.5	NA	39.6	19.8	126.1
For Unscheduled Downtime More Than 2 Minutes									
Number of Occurrences or Events	29	37	6	0	18	0	13	6	31
Events per Hundred Switches	1.8	2.8	0.4	0.0	1.1	0.0	1.0	0.4	1.3
Events per Million Access Lines	1.48	2.89	0.37	0.00	1.38	0.00	0.90	0.31	2.15
Average Outage Duration in Minutes	15948.2	44.6	17.0	NA	981.2	NA	65.3	74.4	163.1
Average Lines Affected per Event in Thousands	12.4	7.7	13.6	NA	17.7	NA	8.1	14.7	6.0
Outage Line-Minutes per Event in Thousands	219,618.1	125.5	171.9	NA	678.5	NA	247.6	334.9	486.9
Outage Line-Minutes per 1,000 Access Lines	324,525.7	362.3	64.3	0.0	936.9	0.0	224.0	104.9	1,048.1
For Scheduled Downtime More Than 2 Minutes									
Number of Occurrences or Events	2	8	0	0	0	0	0	0	0
Events per Hundred Switches	0.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Events per Million Access Lines	0.10	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Outage Duration in Minutes	3.5	4.0	NA	NA	NA	NA	NA	NA	NA
Avg. Lines Affected per Event in Thousands	29.7	15.1	NA	NA	NA	NA	NA	NA	NA
Outage Line-Minutes per Event in Thousands	102.8	58.6	NA	NA	NA	NA	NA	NA	NA
Outage Line-Minutes per 1,000 Access Lines	10.5	36.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Common Trunk Grps. Exceeding Blocking Objectives	2.17%	5.94%	0.22%	4.98%	0.58%	0.0	1.89%	8.19%	0.00%

* Aggregate downtime divided by total number of company switches.

NA: Not available

Please refer to text for notes and data qualifications

Table 9.2 (b)
Switch Downtime & Trunk Blocking
Other Price-Cap Companies - 2005

	Alltel	CenturyTel	Cincinnati Bell	Citizens	Citizens Frontier	Iowa Telecom	Sprint	Valor
Total Access Lines in Thousands	780	583	912	1,249	826	234	7,226	494
Total Trunk Groups	93	278	44	248	96	68	499	238
Total Switches	243	188	86	205	72	272	1,345	291
Switches with Downtime								
Number of Switches	53	0	10	13	7	16	185	21
As a Percentage of Total Switches	21.8%	0.0%	11.6%	6.3%	9.7%	5.9%	13.8%	7.2%
Average Switch Downtime in Seconds per Switch*								
For All Events	2,500.6	0.0	30.1	901.8	1,660.8	483.1	3,299.1	8,919.4
For Unscheduled Events Over 2 Minutes	2,500.6	NA	NA	607.0	115.8	483.1	3,201.5	8,919.4
For Unscheduled Downtime More Than 2 Minutes								
Number of Occurrences or Events	24	0	0	14	3	15	179	29
Events per Hundred Switches	9.9	0.0	0.0	6.8	4.2	5.5	13.3	10.0
Events per Million Access Lines	30.75	0.00	0.00	11.21	3.63	64.16	24.77	58.74
Average Outage Duration in Minutes	422.0	NA	NA	148.1	46.3	146.0	400.9	1491.7
Average Lines Affected per Event in Thousands	4.6	NA	NA	2.8	2.8	0.4	6.0	1.3
Outage Line-Minutes per Event in Thousands	1,557.9	NA	NA	320.2	71.9	67.7	2,147.6	907.8
Outage Line-Minutes per 1,000 Access Lines	47,907.2	0.0	0.0	3,590.0	261.1	4,342.4	53,197.5	53,325.3
For Scheduled Downtime More Than 2 Minutes								
Number of Occurrences or Events	0	0	0	1	0	0	6	0
Events per Hundred Switches	0.0	0.0	0.0	0.5	0.0	0.0	0.4	0.0
Events per Million Access Lines	0.00	0.00	0.00	0.80	0.00	0.00	0.83	0.00
Average Outage Duration in Minutes	NA	NA	NA	6.0	NA	NA	364.7	NA
Avg. Lines Affected per Event in Thousands	NA	NA	NA	20.9	NA	NA	7.0	NA
Outage Line-Minutes per Event in Thousands	NA	NA	NA	125.6	NA	NA	3390.8	NA
Outage Line-Minutes per 1,000 Access Lines	0.0	0.0	0.0	100.6	0.0	0.0	2,815.4	0.0
% Common Trunk Grps. Exceeding Blocking Objectives	1.08%	22.66%	9.09%	0.00%	0.00%	0.00%	4.01%	0.00%

* Aggregate downtime divided by total number of company switches.

NA: Not available

Please refer to text for notes and data qualifications

Table 9.3 (a)
Switch Downtime Causes -- Outages More Than 2 Minutes in Duration
Bell Companies - 2005

	BellSouth	Qwest	AT&T Ameritech	AT&T Pacific	AT&T Southwestern	AT&T SNET	Verizon North	Verizon South	Verizon GTE
Total Number of Outages									
1. Scheduled	2	8	0	0	0	0	0	0	0
2. Procedural Errors -- Telco. (Inst./Maint.)	0	0	1	0	0	0.0	1	0	0
3. Procedural Errors -- Telco. (Other)	0	0	0	0	0	0	0	0	0
4. Procedural Errors -- System Vendors	0	0	0	0	0	0	0	0	1
5. Procedural Errors -- Other Vendors	0	1	0	0	1	0	0	0	0
6. Software Design	1	0	1	0	3	0	4	0	8
7. Hardware Design	2	0	0	0	0	0	1	1	1
8. Hardware Failure	5	30	4	0	13	0	5	3	4
9. Natural Causes	14	1	0	0	1	0	0	0	4
10. Traffic Overload	0	0	0	0	0	0	0	0	0
11. Environmental	0	0	0	0	0	0	0	0	0
12. External Power Failure	2	1	0	0	0	0	0	0	7
13. Massive Line Outage	0	0	0	0	0	0	0	0	2
14. Remote	2	8	0	0	0	0	0	0	0
15. Other/Unknown	0	0	0	0	0	0	2	1	0
Total Outage Line-Minutes per Thousand Access Lines									
1. Scheduled	10.5	36.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Procedural Errors -- Telco. (Inst./Maint.)	0.0	0.0	5.1	0.0	0.0	0.0	7.2	0.0	0.0
3. Procedural Errors -- Telco. (Other)	4.7	12.6	0.0	0.0	0.0	0.0	0.0	0.0	223.6
4. Procedural Errors -- System Vendors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.6
5. Procedural Errors -- Other Vendors	0.0	29.6	0.0	0.0	0.3	0.0	0.0	0.0	0.0
6. Software Design	0.6	0.0	16.1	0.0	7.9	0.0	20.2	0.0	317.0
7. Hardware Design	628.9	0.0	0.0	0.0	0.0	0.0	77.9	2.9	3.8
8. Hardware Failure	13.5	301.9	43.1	0.0	108.4	0.0	19.2	98.2	35.7
9. Natural Causes	323,295.6	13.1	0.0	0.0	820.3	0.0	0.0	0.0	257.0
10. Traffic Overload	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11. Environmental	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12. External Power Failure	580.4	5.1	0.0	0.0	0.0	0.0	0.0	0.0	167.9
13. Massive Line Outage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.4
14. Remote	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1
15. Other/Unknown	0.0	0.0	0.0	0.0	0.0	0.0	99.5	3.3	0.0

Please refer to text for notes and data qualifications

Table 9.3 (b)
Switch Downtime Causes -- Outages More Than 2 Minutes in Duration
Other Price-Cap Companies - 2005

	Alltel	CenturyTel	Cincinnati Bell	Citizens	Citizens Frontier	Iowa Telecom	Sprint	Valor
Total Number of Outages								
1. Scheduled	0	0	0	1	0	0	6	0
2. Procedural Errors -- Telco. (Inst./Maint.)	0	0	0	0	0	0	14	3
3. Procedural Errors -- Telco. (Other)	0	0	0	0	0	0	0	0
4. Procedural Errors -- System Vendors	0	0	0	1	0	0	2	0
5. Procedural Errors -- Other Vendors	1	0	0	0	0	5	6	0
6. Software Design	2	0	0	2	0	0	11	0
7. Hardware Design	0	0	0	0	0	0	2	0
8. Hardware Failure	10	0	0	3	3	4	35	3
9. Natural Causes	1	0	0	0	0	0	16	11
10. Traffic Overload	0	0	0	0	0	0	0	0
11. Environmental	0	0	0	0	0	0	2	0
12. External Power Failure	2	0	0	6	0	0	8	0
13. Massive Line Outage	5	0	0	0	0	6	59	0
14. Remote	0	0	0	1	0	0	6	0
15. Other/Unknown	0	0	0	0	0	0	7	0
Total Outage Line-Minutes per Thousand Access Lines								
1. Scheduled	0.0	0.0	0.0	100.6	0.0	0.0	2,815.4	0.0
2. Procedural Errors -- Telco. (Inst./Maint.)	0.0	0.0	0.0	0.0	0.0	0.0	4,855.5	754.4
3. Procedural Errors -- Telco. (Other)	0.0	0.0	0.0	199.6	0.0	0.0	1,507.2	2,437.8
4. Procedural Errors -- System Vendors	0.0	0.0	0.0	142.1	0.0	0.0	2,848.1	0.0
5. Procedural Errors -- Other Vendors	42.3	0.0	0.0	0.0	0.0	1,497.2	273.1	0.0
6. Software Design	23,713.6	0.0	0.0	62.2	0.0	0.0	3,697.3	0.0
7. Hardware Design	0.0	0.0	0.0	0.0	0.0	0.0	1,175.1	0.0
8. Hardware Failure	10,343.7	0.0	0.0	394.2	261.1	2,200.2	12,691.1	3,638.7
9. Natural Causes	244.6	0.0	0.0	0.0	0.0	0.0	4,466.9	46,494.4
10. Traffic Overload	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11. Environmental	0.0	0.0	0.0	0.0	0.0	0.0	195.2	0.0
12. External Power Failure	4,774.2	0.0	0.0	2,791.8	0.0	0.0	1,484.9	0.0
13. Massive Line Outage	3,845.4	0.0	0.0	0.0	0.0	645.0	15,643.8	0.0
14. Remote	4,943.4	0.0	0.0	0.0	0.0	0.0	984.5	0.0
15. Other/Unknown	0.0	0.0	0.0	0.0	0.0	0.0	3,374.8	0.0

Please refer to text for notes and data qualifications

Table 9.4
Customer Perception Surveys - Percent of Customers Dissatisfied
Bell Companies - 2005

	BellSouth	Qwest	AT&T Ameritech	AT&T Pacific	AT&T Southwestern	AT&T SNET	Verizon North	Verizon South	Verizon GTE
Installations:									
Residential	5.74%	3.73%	6.68%	6.44%	7.14%	8.41%	5.49%	7.08%	6.86%
Small Business	8.14%	7.13%	9.23%	7.36%	7.27%	8.87%	9.45%	12.07%	11.39%
Large Business	5.78%	NA	NA	NA	NA	NA	8.88%	6.62%	7.58%
Repairs:									
Residential	10.10%	6.25%	11.10%	8.89%	9.18%	11.16%	18.85%	22.48%	16.14%
Small Business	6.91%	6.90%	10.49%	7.19%	7.17%	8.02%	11.78%	12.02%	11.19%
Large Business	5.76%	NA	NA	NA	NA	NA	10.92%	8.29%	5.96%
Business Office:									
Residential	7.13%	1.62%	7.38%	4.89%	8.23%	8.49%	5.54%	6.64%	8.22%
Small Business	9.97%	2.82%	7.20%	4.90%	6.21%	8.41%	5.99%	7.69%	9.13%
Large Business	9.52%	NA	NA	NA	NA	NA	15.98%	14.86%	11.65%

NA: Not available

Please refer to text for notes and data qualifications

Table 9.5
Customer Perception Surveys - Sample Sizes
Bell Companies - 2005

	BellSouth	Qwest	AT&T Ameritech	AT&T Pacific	AT&T Southwestern	AT&T SNET	Verizon North	Verizon South	Verizon GTE
Installations:									
Residential	45,440	48,800	10,744	10,760	10,586	4,779	20,399	15,909	17,164
Small Business	45,051	24,160	12,672	13,163	12,460	2,265	19,680	15,448	17,566
Large Business	9,360	0	0	0	0	0	428	559	396
Repairs:									
Residential	30,923	38,335	10,793	11,827	10,693	2,402	20,399	15,375	17,719
Small Business	44,335	28,642	13,088	12,945	12,988	1,783	20,151	15,137	17,842
Large Business	6,963	0	0	0	0	0	421	507	386
Business Office:									
Residential	42,117	45,601	21,453	21,626	21,403	2,955	3,701	9,250	11,472
Small Business	10,249	23,926	21,133	20,645	21,300	1,082	1,268	3,447	2,640
Large Business	557	0	0	0	0	0	169	471	309

Please refer to text for notes and data qualifications

10. Infrastructure

The infrastructure information contained in this section is based upon data collected by the FCC as part of its price-cap monitoring procedures.[1] This summary is intended to highlight changes in the use of technology in the local telephone company plant. The data (ARMIS 43-07 reports[2]) upon which this infrastructure summary is based are due April 1 for the previous calendar year. This infrastructure section includes data through calendar year 2005.[3] The most recent data were due April 1, 2006. Revisions are only included in this section if they are filed early enough for inclusion; however, this section contains revisions to historical data filed subsequent to cutoff dates for last year's summary.

Background

The data items presented here summarize ARMIS Report 43-07, which is filed by local exchange carriers subject to mandatory price-cap regulation. The information contained in this section is for the years 1995 through 2005. Recent changes to our infrastructure data collection process are reflected beginning with filed data for calendar year 2003. A number of items were eliminated from reporting requirements and historical information for these items is no longer shown in this section.[4] Most of the eliminated items relate to switching technologies that have

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1 *Policy and Rules Concerning Rates For Dominant Carriers*, CC Docket No. 87-313, Second Report and Order, 5 FCC Rcd 6786 (1990) (*LEC Price Cap Order*), Erratum, 5 FCC Rcd 7664 (Com. Car. Bur. 1990); *Policy and Rules Concerning Rates For Dominant Carriers*, CC Docket No. 87-313, Memorandum Opinion and Order, 8 FCC Rcd 7474 (Com. Car. Bur. 1993) (*Service Quality Modifications Order*).

2 ARMIS, an acronym for Automated Reporting Management Information System, is a publicly available repository of financial, plant, demand, and quality-of-service data. Additional infrastructure data are contained in the ARMIS 43-08 report. See *Statistics of Communications Common Carriers*, published annually by the Wireline Competition Bureau's Industry Analysis and Technology Division for a compilation of ARMIS 43-08 infrastructure data.

3 See *Infrastructure of the Local Operating Companies Aggregated to the Holding Company Level*, released April 24, 1995 for data for the years 1989 and 1990. Some of the data for those early years are not a part of this summary and may contain discrepancies that make the early data inconsistent with that of later years. Reports containing data for the early years can be found in the infrastructure section of the Wireline Competition Bureau Statistical Reports Internet site at www.fcc.gov/wcb/stats under the file names INFRA99.ZIP, INFRA98.ZIP, INFRA95.ZIP, and INFRA93.ZIP. More recent reports can be found in Section 10 of earlier versions of this report on the same web page under the section covering the Commission's Federal-State Joint Board Monitoring Reports.

4 Historical information for the entries that are no longer reported can be found in

become obsolete or reflect virtually complete deployment of capabilities such as touch-tone capability. New data are being collected on hybrid copper/fiber interfaces in the network but most of the carriers have requested proprietary treatment for the data. As a result, the data are not provided in this section.

The ARMIS 43-07 reports are filed only by those local exchange companies originally subject to mandatory price-cap regulation--the Bell operating companies (BOCs).[5] Together, these large companies are estimated to serve about 90% of all incumbents' access lines nationwide. The data are generally filed at the study area level, which typically consists of a company's operations within a state. The state-by-state data are available from the Commission's ARMIS web page at <http://www.fcc.gov/wcb/eafs/>.[6] This web page has been redesigned and provides more features than were previously available. The information summarized in this section is organized into two sets of tables with the following designations: Table 10.1 shows switching system data and gross plant expenditures covering all types of plant. Table 10.2 shows transmission system data. Each set of tables contains segments for each of the regional Bell operating companies (along with Verizon's GTE companies shown separately) with aggregated summary data for all the reporting companies. The data summarized for each holding company reflect the aggregate of data filed for individual states or study areas and should be useful in assessing overall trends. In some cases, refiled data may cause values to differ from prior summary reports. Recent data reflect mergers of GTE and Bell Atlantic, which are now under the name Verizon Communications, the acquisitions by SBC of Ameritech, Pacific Telesis, and Southern New England Telephone, and the subsequent merger of AT&T and SBC.

Description of the Technologies and Analysis of the Data

The data in the attached tables provide an historical series for a variety of plant elements that illustrate the deployment of technology in the networks of the major local exchange carriers.[7] The data items provide a picture of the well established technologies in use This section highlights key trends in the evolution of basic telecommunications infrastructure and illustrates the replacement of older technologies with newer ones. In some cases, older

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Monitoring Reports released prior to 2003 and in the reports noted in footnote 3.

5 See footnote 1.

6 To access ARMIS data from <www.fcc.gov/wcb/eafs> click on the words "download ARMIS data" and select the desired report, table and row(s)." To access data instructions and definitions applicable to the 43-07 report click on the words "ARMIS site map" at the top of the second screen and then select the 43-07 report and table desired.

7 A number of irregularities including time series anomalies have been noted in the data. The companies are typically notified of these observed problems and either file revisions or explanations. Revisions are initially made available on the ARMIS database website noted above.

technologies either no longer exist or are in very limited use. This section reflects recent revisions to the ARMIS 43-07 report from which the data in this summary are obtained.[8]

ARMIS data currently collected only cover circuit switches, including remote switches, that provide a dedicated path through the network for the duration of a call, not routers or switches that are used to handle Internet traffic or in connection with frame relay and ATM services that are specifically designed to handle data packets.[9] Almost all of the major local exchange carrier switches are digital. More than 46 percent of these are ISDN capable. However, the rate at which new ISDN switching capability is being added to the network has slowed considerably, and the number of ISDN switches have declined in 2005 associated with the overall decline in number of switches. In 2005, the reported number of equipped ISDN Primary Rate Interfaces declined less than 1 percent, from 567,255 to 564,900. ISDN basic rate services also declined with increased use of xDSL technologies, with about 3% fewer reported new Basic Rate Interfaces equipped in 2005 than in 2004.

A number of transmission elements are included in Table 10.2. Definitions for these elements can be found on the Commissions ARMIS website noted above. These illustrate the rapid development of fiber capacity in terms of terminations, sheath kilometers, and links. The number of sheath kilometers of fiber more than doubled over the decade 1995-2005, with about 49,000 new fiber sheath kilometers being reported in 2005. During the same period, the number of sheath kilometers of copper remained steady at somewhat over 5 million, and other sheath data, in relative terms, were not significant.

Table 10.2 also highlights the relative magnitude of equipped and working channels. Both copper and fiber working channels have declined in 2005. Total interoffice circuit links have also declined from last year. Although circuits connecting local central offices could typically be provided on only two fibers, the economics of fiber deployment have resulted in deployments of typical fiber cables containing more than 40 fibers. This suggests that there is a significant amount of fiber capacity currently unused in the *interoffice* transmission plant.[10]

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8 *2000 Biennial Regulatory Review – Comprehensive Review of the Accounting Requirements and ARMIS Reporting Requirements for Incumbent Local Exchange Carriers: Phase 2; Amendments to the Uniform System of Accounts for Interconnection; Jurisdictional Separations Reform and Referral to the Federal-State Joint Board; and Local Competition and Broadband Reporting*, CC Docket Nos. 00-199, 99-301, 97-212, 80-286, Report and Order in CC Docket Nos. 00-199, 97-212, and 80-286, Further Notice of Proposed Rulemaking in CC Docket Nos. 00-199, 99-301, and 80-286, 16 FCC Rcd 19911 (2001), *recon pending* (*Phase 2 Report and Order*).

9 Remote switches as defined in this report only cover those switches capable of functioning if the host switch fails.

10 A large portion of the cost of fiber deployment is associated with labor and installation rather than with the cable itself. Thus, the incremental cost of installing a larger fiber cable is typically relatively small. This suggests that the sheath-kilometer parameter shown in the attached tables may be a better measure of fiber coverage than fiber

Although the historical level of growth in fiber has been high, its use in the local loop at present appears to be relatively small. The reporting companies included in this section had an installed base of about 244 million copper-pair mainframe terminations in their central offices for local loop use in 2005. In comparison, about 3.2 million fiber loop central office terminations had been installed by end-of-year 2005. The data show that the number of these terminations increased by more than 14% during 2005. In 2005 DS-3 terminations on fiber facilities grew by about 23%. Fiber and hybrid copper/fiber systems will likely become increasingly important in the local loop as the number of high-quality copper pairs available to support higher data rate digital services declines.

As noted earlier, the data presented in this section do not include data associated with hybrid fiber/copper interfaces including information on offerings of xDSL services for which the companies requested proprietary treatment.[11] Nonetheless the number of ISDN capable lines can be used as an upper bound for potential broadband availability over copper loops, since copper loop characteristics necessary to support ISDN services are also required for newer xDSL services.[12] Readers interested in more disaggregated information may wish to examine data at a more localized level than presented here.[13]

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kilometers. In general, care should be exercised in interpreting aggregate fiber data when determining, for example, whether fiber is concentrated in certain parts of a company's service area with relatively little fiber elsewhere. See *Fiber Deployment Update - End of Year 1998*, released Sept. 9, 1999: <www.fcc.gov/wcb/iatd/stats.html>: FIBER98.ZIP (authored by J. Kraushaar, Industry Analysis and Technology Division, Wireline Competition Bureau, Federal Communications Commission).

11 xDSL (Digital Subscriber Loop) services that are now available offer broadband digital capability using special terminal equipment that enhances the capability of existing copper access lines.

12 Table 10.1 includes the number of switch terminations that are available for ISDN and ISDN capable lines. Table 10.2 includes the number of copper loops that are capable of supporting ISDN.

13 Individual study-area data are also available to address more localized issues. This information is available from the ARMIS web page at <www.fcc.gov/wcb/eafs/>.

Table 10.1
Switching Data
Total - All Companies

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Local Switches	15,556	16,267	16,186	16,117	16,401	14,841	14,837	14,051	14,053	14,064	11,997
Tandems	458	484	481	493	498	504	517	526	544	568	529
Hosts	2,310	2,432	2,515	2,471	2,537	2,401	2,338	2,274	2,169	2,156	2,516
Remotes (Stand Alone Only)	6,902	7,098	7,164	7,977	8,167	7,406	7,412	7,383	7,382	7,312	6,520
Total Switches	15,740	16,486	16,448	16,392	16,659	15,092	15,109	14,353	14,376	14,399	12,321
Analog Stored Program Control	1,002	735	558	431	320	203	139	107	84	73	65
Digital Stored Program Control	14,055	15,356	15,722	15,961	16,339	14,889	14,970	14,245	14,292	14,326	12,256
Total Number Access Lines in Service (000)	138,144	143,239	150,043	155,530	161,778	160,557	155,543	148,292	142,698	136,057	127,026
Analog Stored Program Control Lines Served	29,409	24,803	21,416	16,688	11,925	7,317	4,810	3,283	2,436	1,981	1,566
Digital Stored Program Control Lines Served	108,170	118,149	128,470	138,842	149,853	153,240	150,732	145,009	140,262	134,076	125,460
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	11,742	13,171	13,879	15,148	16,137	14,822	14,954	14,258	14,342	14,366	12,292
Total Switches Equipped with ISDN	3,256	3,852	4,681	5,392	5,809	5,414	5,465	5,664	5,651	5,787	5,694
Lines with Access to ISDN (000)	77,492	95,113	106,575	121,408	128,925	132,886	129,075	124,451	119,422	115,561	107,159
Basic Rate ISDN (BRI) Interfaces Equipped	1,038,902	1,507,551	1,797,254	2,491,509	2,756,249	2,815,671	3,097,905	2,860,453	2,590,905	2,637,353	2,567,623
Primary Rate ISDN (PRI) Interfaces Equipped	32,580	67,885	136,233	234,515	338,993	521,503	720,590	753,491	556,226	567,255	564,900

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
BellSouth Companies

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Local Switches	1,647	1,650	1,654	1,653	1,649	1,644	1,642	1,637	1,629	1,625	1,612
Tandems	71	70	70	71	71	73	77	77	78	79	78
Hosts	289	297	317	307	306	297	304	305	295	295	292
Remotes (Stand Alone Only)	742	747	766	765	765	776	819	829	877	811	810
Total Switches	1,668	1,670	1,674	1,673	1,668	1,665	1,665	1,664	1,658	1,653	1,637
Analog Stored Program Control	158	130	106	100	83	69	54	44	41	39	31
Digital Stored Program Control	1,510	1,540	1,568	1,573	1,585	1,596	1,611	1,620	1,617	1,614	1,606
Total Number Access Lines in Service (000)	21,064	22,019	23,080	23,909	24,458	24,558	23,756	22,955	22,206	21,317	19,944
Analog Stored Program Control Lines Served	4,455	4,020	3,746	3,536	2,972	2,362	1,729	1,309	1,154	1,030	699
Digital Stored Program Control Lines Served	16,609	17,999	19,334	20,373	21,486	22,197	22,027	21,646	21,052	20,287	19,244
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	1,629	1,652	1,674	1,673	1,668	1,665	1,665	1,664	1,658	1,653	1,637
Total Switches Equipped with ISDN	467	518	584	596	645	691	678	697	701	809	811
Lines with Access to ISDN (000)	10,988	12,948	14,894	15,980	17,413	18,396	17,660	17,457	16,927	17,536	16,607
Basic Rate ISDN (BRI) Interfaces Equipped	80,641	122,043	167,512	183,458	202,391	223,294	228,898	230,066	269,254	281,088	246,880
Primary Rate ISDN (PRI) Interfaces Equipped	4,803	9,154	21,389	33,564	51,669	72,347	85,983	81,328	81,682	86,399	86,185

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
Qwest Companies

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Local Switches	1,641	1,521	1,441	1,446	1,428	1,400	1,354	1,337	1,322	1,323	1,319
Tandems	51	51	51	51	51	53	51	56	56	56	56
Hosts	238	248	249	253	251	245	231	226	217	219	218
Remotes (Stand Alone Only)	961	852	781	786	752	733	680	651	631	630	630
Total Switches	1,654	1,534	1,492	1,458	1,441	1,414	1,363	1,351	1,336	1,337	1,334
Analog Stored Program Control	188	146	113	95	71	20	1	1	0	0	0
Digital Stored Program Control	1,465	1,387	1,379	1,363	1,370	1,394	1,362	1,350	1,336	1,337	1,334
Total Number Access Lines in Service (000)	14,817	15,405	16,132	16,859	17,449	17,626	16,664	15,682	14,277	13,425	12,817
Analog Stored Program Control Lines Served	4,706	4,245	4,228	3,574	2,501	636	30	28	0	0	0
Digital Stored Program Control Lines Served	10,110	11,159	11,905	13,286	14,948	16,991	16,634	15,654	14,277	13,425	12,817
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	1,116	1,143	1,305	1,346	1,350	1,340	1,311	1,311	1,312	1,315	1,311
Total Switches Equipped with ISDN	262	327	541	557	583	623	603	587	635	638	636
Lines with Access to ISDN (000)	6,192	9,668	10,264	11,189	12,522	14,611	14,082	13,153	12,575	11,806	11,245
Basic Rate ISDN (BRI) Interfaces Equipped	126,530	146,570	162,953	165,733	167,623	176,696	174,079	199,302	201,232	195,674	195,729
Primary Rate ISDN (PRI) Interfaces Equipped	2,315	2,734	4,329	4,867	6,112	7,822	11,046	61,993	65,672	67,908	67,912

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T Ameritech Companies

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Local Switches	1,415	1,410	1,435	1,419	1,432	1,447	1,451	1,455	1,439	1,436	1,439
Tandems	46	46	47	51	52	53	55	63	65	87	86
Hosts	238	236	243	236	234	234	235	236	236	236	235
Remotes (Stand Alone Only)	731	743	769	764	775	790	789	790	776	779	781
Total Switches	1,461	1,456	1,482	1,470	1,485	1,500	1,506	1,518	1,504	1,523	1,525
Analog Stored Program Control	97	71	58	46	39	37	34	24	16	8	8
Digital Stored Program Control	1,364	1,385	1,424	1,424	1,446	1,463	1,472	1,494	1,488	1,515	1,517
Total Number Access Lines in Service (000)	19,310	19,553	20,335	20,790	21,036	20,898	20,074	19,151	18,309	17,287	16,050
Analog Stored Program Control Lines Served	3,727	3,228	2,793	2,193	1,811	1,730	1,491	927	562	276	244
Digital Stored Program Control Lines Served	15,583	16,324	17,541	18,597	19,225	19,168	18,583	18,224	17,747	17,011	15,806
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	1,400	1,438	1,463	1,451	1,476	1,492	1,496	1,504	1,504	1,523	1,525
Total Switches Equipped with ISDN	489	601	695	784	816	822	844	933	863	883	908
Lines with Access to ISDN (000)	12,860	13,802	15,464	16,804	17,472	17,388	16,814	16,810	16,160	15,531	14,404
Basic Rate ISDN (BRI) Interfaces Equipped	97,550	226,355	180,280	220,867	259,312	271,468	283,600	290,367	282,643	282,159	280,365
Primary Rate ISDN (PRI) Interfaces Equipped	1,677	4,247	14,569	24,800	38,037	53,926	70,542	75,184	75,766	79,519	80,609

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T Pacific Telesis Companies

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Local Switches	840	833	810	801	799	778	781	779	779	778	779
Tandems	20	20	21	24	24	24	31	31	31	35	35
Hosts	117	114	135	121	116	189	114	114	116	116	115
Remotes (Stand Alone Only)	316	310	364	361	350	361	360	358	359	357	357
Total Switches	860	853	830	824	822	802	812	810	807	813	814
Analog Stored Program Control	87	72	49	38	17	0	0	0	0	0	0
Digital Stored Program Control	772	781	781	786	805	802	812	810	807	813	814
Total Number Access Lines in Service (000)	16,021	16,460	17,155	18,158	18,285	18,236	17,788	17,248	16,693	16,156	15,589
Analog Stored Program Control Lines Served	4,036	3,354	2,422	1,825	754	0	0	0	0	0	0
Digital Stored Program Control Lines Served	11,985	13,106	14,733	16,333	17,531	18,236	17,788	17,248	16,693	16,156	15,589
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	772	794	791	803	796	778	812	810	807	813	814
Total Switches Equipped with ISDN	417	473	531	551	574	574	562	560	588	592	592
Lines with Access to ISDN (000)	10,291	11,895	13,632	15,134	16,529	17,589	16,966	16,427	16,251	15,759	15,201
Basic Rate ISDN (BRI) Interfaces Equipped	171,305	304,182	314,003	468,493	489,369	421,744	630,816	615,934	347,052	339,563	339,695
Primary Rate ISDN (PRI) Interfaces Equipped	3,491	13,448	20,125	31,345	47,794	49,712	94,742	54,902	34,378	34,926	35,040

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T Southern New England

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Local Switches					140	139	137	136	161	161	160
Tandems					6	6	1	6	7	7	7
Hosts					76	79	81	32	30	30	30
Remotes (Stand Alone Only)					64	71	56	73	82	82	81
Total Switches					143	139	137	136	165	168	167
Analog Stored Program Control					6	3	0	0	0	0	0
Digital Stored Program Control					137	136	137	136	165	168	167
Total Number Access Lines in Service (000)					2,414	2,450	2,334	2,258	2,173	2,069	1,941
Analog Stored Program Control Lines Served					211	125	0	0	0	0	0
Digital Stored Program Control Lines Served					2,202	2,325	2,334	2,258	2,173	2,069	1,941
Total Switches Equipped w/SS7-394 (InterLATA) Svc.					143	141	137	136	165	168	167
Total Switches Equipped with ISDN					74	74	101	137	103	107	106
Lines with Access to ISDN (000)					1,568	1,845	2,031	2,030	1,870	1,776	1,660
Basic Rate ISDN (BRI) Interfaces Equipped					35,378	40,569	38,423	43,254	51,076	51,138	50,348
Primary Rate ISDN (PRI) Interfaces Equipped					4,083	92,208	169,488	192,720	8,465	8,413	8,390

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T Southwestern Bell Companies

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Local Switches	1,644	1,670	1,690	1,644	1,658	1,663	1,660	1,652	1,658	1,654	1,639
Tandems	60	60	60	67	56	69	70	70	71	68	67
Hosts	245	241	267	230	228	229	230	244	245	246	246
Remotes (Stand Alone Only)	935	1,077	1,077	1,158	1,163	1,152	1,150	1,150	1,101	1,093	1,079
Total Switches	1,679	1,730	1,750	1,711	1,727	1,715	1,716	1,722	1,728	1,722	1,706
Analog Stored Program Control	252	162	136	115	88	67	46	34	23	23	23
Digital Stored Program Control	1,369	1,568	1,614	1,596	1,639	1,648	1,670	1,688	1,705	1,699	1,683
Total Number Access Lines in Service (000)	14,095	14,104	15,306	15,872	16,287	16,411	15,842	15,294	14,670	13,912	13,034
Analog Stored Program Control Lines Served	6,531	5,657	5,055	4,119	3,107	2,246	1,448	963	652	615	569
Digital Stored Program Control Lines Served	7,502	8,447	10,251	11,753	13,180	14,165	14,394	14,331	14,018	13,297	12,465
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	1,466	1,597	1,724	1,707	1,724	1,713	1,713	1,722	1,728	1,722	1,706
Total Switches Equipped with ISDN	303	331	331	360	428	441	461	472	479	498	497
Lines with Access to ISDN (000)	8,826	9,440	10,577	13,361	12,158	12,169	12,056	11,241	10,721	10,069	9,361
Basic Rate ISDN (BRI) Interfaces Equipped	108,784	104,604	185,018	225,427	267,190	281,459	310,326	308,501	309,907	309,172	304,893
Primary Rate ISDN (PRI) Interfaces Equipped	5,084	6,150	15,434	31,570	46,533	59,513	68,236	68,793	71,035	70,860	68,395

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
Verizon - Bell Atlantic Companies

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Local Switches	2,696	2,684	2,703	2,616	2,636	2,634	2,622	2,623	2,628	2,639	2,636
Tandems	65	71	67	67	74	76	81	87	102	101	100
Hosts	371	367	365	369	381	386	382	464	375	371	372
Remotes (Stand Alone Only)	1,424	1,444	1,447	1,405	1,437	1,435	1,424	1,424	1,441	1,445	1,438
Total Switches	2,729	2,723	2,737	2,652	2,682	2,683	2,675	2,682	2,705	2,702	2,712
Analog Stored Program Control	194	137	86	37	16	7	4	4	4	3	3
Digital Stored Program Control	2,535	2,586	2,651	2,615	2,666	2,676	2,671	2,677	2,701	2,699	2,709
Total Number Access Lines in Service (000)	36,959	38,305	39,714	40,838	41,833	41,669	40,582	38,810	38,003	36,105	33,520
Analog Stored Program Control Lines Served	5,576	4,057	2,975	1,442	568	218	112	55	67	60	54
Digital Stored Program Control Lines Served	31,383	34,248	36,739	39,396	41,266	41,451	40,469	38,754	37,936	36,045	33,466
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	2,577	2,650	2,707	2,641	2,671	2,672	2,664	2,682	2,704	2,700	2,706
Total Switches Equipped with ISDN	930	1,079	1,220	1,298	1,304	1,305	1,303	1,328	1,308	1,289	1,301
Lines with Access to ISDN (000)	22,117	27,682	31,125	34,367	36,336	36,825	35,636	34,012	32,010	30,667	27,567
Basic Rate ISDN (BRI) Interfaces Equipped	363,320	505,652	660,542	1,088,060	1,167,022	1,226,934	1,258,543	1,003,709	966,634	1,015,554	995,707
Primary Rate ISDN (PRI) Interfaces Equipped	12,507	24,775	43,922	71,983	97,177	123,323	150,029	149,282	151,276	149,131	150,081

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
Verizon - GTE Companies

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Local Switches	5,673	6,499	6,453	6,538	6,659	5,136	5,190	4,432	4,437	4,448	2,413
Tandems	145	166	165	162	164	150	151	136	134	135	100
Hosts	812	929	939	955	945	742	761	653	655	643	1,008
Remotes (Stand Alone Only)	1,793	1,925	1,960	2,738	2,861	2,088	2,134	2,108	2,115	2,115	1,344
Total Switches	5,689	6,520	6,483	6,604	6,691	5,174	5,235	4,470	4,473	4,481	2,426
Analog Stored Program Control	26	17	10	0	0	0	0	0	0	0	0
Digital Stored Program Control	5,040	6,109	6,305	6,604	6,691	5,174	5,235	4,470	4,473	4,481	2,426
Total Number Access Lines in Service (000)	15,878	17,393	18,321	19,105	20,015	18,709	18,503	16,894	16,366	15,785	14,131
Analog Stored Program Control Lines Served	378	242	197	0	0	0	0	0	0	0	0
Digital Stored Program Control Lines Served	14,998	16,866	17,966	19,105	20,015	18,709	18,503	16,894	16,366	15,785	14,131
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	2,782	3,897	4,215	5,527	6,309	5,021	5,156	4,429	4,464	4,472	2,426
Total Switches Equipped with ISDN	388	523	779	1,246	1,385	884	913	950	974	971	843
Lines with Access to ISDN (000)	6,218	9,678	10,619	14,574	14,926	14,064	13,830	13,320	12,908	12,418	11,114
Basic Rate ISDN (BRI) Interfaces Equipped	90,772	98,145	126,946	139,471	167,964	173,507	173,220	169,320	163,107	163,005	154,006
Primary Rate ISDN (PRI) Interfaces Equipped	2,703	7,377	16,465	36,386	47,588	62,652	70,524	69,289	67,952	70,099	68,288

Source: ARMIS Report 43-07.

Table 10.2
Transmission System Data
Total - All Companies

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sheath Kilometers:											
Total Sheath Kilometers	5,447,012	5,587,572	5,664,315	5,763,419	5,921,245	5,761,869	5,848,516	5,791,105	5,851,790	5,941,489	5,990,163
Copper	5,026,009	5,124,940	5,163,039	5,212,873	5,322,914	5,132,364	5,166,537	5,086,669	5,118,314	5,166,481	5,166,382
Fiber	414,183	456,814	495,380	536,520	584,658	613,646	665,805	692,031	720,877	763,132	811,896
Other	6,819	5,819	5,896	14,026	13,672	15,860	16,174	12,406	12,600	11,877	11,884
Interoffice Working Facilities:											
Total Circuit Links	25,310,122	24,387,840	28,847,081	32,231,481	42,029,901	48,661,944	52,923,180	52,949,635	52,112,866	50,950,480	49,057,883
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	262,339,718	255,430,475	264,429,362	291,636,650	320,974,950	334,896,812	358,698,149	312,233,882	297,583,679	300,303,600	279,689,574
Copper	225,562,564	227,384,081	230,903,175	239,252,059	246,547,737	248,907,611	252,260,939	244,927,670	238,212,199	234,124,363	234,032,992
Fiber Digital Carrier	36,770,992	28,041,605	33,515,370	52,379,288	74,422,675	85,985,244	106,433,399	67,303,642	59,370,412	66,179,010	45,656,354
Other	6,162	4,789	10,817	5,303	4,538	3,957	3,811	2,570	1,068	227	228
Total Working Channels	155,149,393	163,245,940	170,083,120	194,840,965	210,378,301	218,927,639	227,878,106	169,157,091	155,978,400	148,255,276	137,253,984
Copper	140,650,515	144,576,836	147,286,389	154,355,633	156,898,503	157,839,973	152,364,455	137,228,369	127,261,709	117,320,498	110,032,804
Fiber Digital Carrier	14,496,021	18,666,394	22,793,636	40,483,024	53,232,852	61,085,767	75,512,132	31,927,283	28,716,169	30,934,695	27,221,095
Other	2,857	2,710	3,095	2,308	246,946	1,899	1,519	1,439	522	83	86
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	211,576,794	213,115,863	215,534,261	218,990,613	222,260,769	221,252,639	238,862,029	242,252,929	242,520,915	240,835,374	244,216,752
Fiber Strands Term in the CO (Loop Plant Only)	1,202,917	1,465,877	1,651,999	1,946,608	2,045,501	2,350,285	2,744,584	3,098,223	2,705,122	2,819,962	3,217,364
Fiber Term at Customer Premises DS1 Rate	218,909	294,808	363,189	506,572	629,237	876,058	1,290,658	1,325,187	1,710,437	1,446,638	1,803,597
Fiber Term at Customer Premises DS3 Rate & Higher	19,339	32,352	29,893	56,208	105,420	190,106	232,430	212,277	265,280	359,723	444,584
ISDN Capable Lines	NA	NA	NA	107,514,215	123,269,741	117,157,253	105,443,488	106,355,653	96,011,618	94,647,425	90,735,369

NA: Not available

Source: ARMIS Report 43-07.