

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 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 - 2006

	AT&T Ameritech	AT&T BellSouth	AT&T Pacific	AT&T Southwestern	AT&T SNET	Qwest	Verizon North	Verizon South	Verizon GTE
ACCESS SERVICES PROVIDED TO CARRIERS -- SWITCHED ACCESS									
Percent Installation Commitments Met	99.9	100.0	99.0	98.2	100.0	100.0	99.9	99.8	96.9
Average Installation Interval (days)	23.7	19.1	24.2	25.6	19.4	14.5	29.7	18.6	20.6
Average Repair Interval (hours)	5.8	0.5	7.6	3.4	2.2	1.6	5.1	7.6	8.4
ACCESS SERVICES PROVIDED TO CARRIERS -- SPECIAL ACCESS									
Percent Installation Commitments Met	94.7	99.7	95.1	98.1	99.9	96.8	93.1	94.7	92.3
Average Installation Interval (days)	18.1	14.5	15.4	16.0	18.5	6.0	12.8	12.3	9.0
Average Repair Interval (hours)	5.5	3.1	5.9	4.3	3.6	3.2	4.7	3.7	3.9
LOCAL SERVICES PROVIDED TO RESIDENTIAL AND BUSINESS CUSTOMERS									
Percent Installation Commitments Met	98.6	96.9	99.3	99.2	99.7	99.5	98.6	98.6	97.6
Residence	98.6	98.2	99.3	99.3	99.7	99.6	98.7	98.8	97.9
Business	98.6	87.6	99.0	99.0	99.5	98.9	97.9	97.2	95.0
Average Installation Interval (days)	1.5	1.4	1.7	1.2	1.5	0.2	1.2	1.5	0.9
Residence	1.5	1.4	1.6	1.1	1.1	0.2	1.1	1.4	0.9
Business	1.4	1.4	2.2	2.2	2.9	0.4	2.0	2.1	2.1
Average Out of Service Repair Interval (hours)	16.9	19.4	49.9	21.6	32.1	17.6	33.4	40.5	22.2
Residence	17.3	20.6	52.7	22.4	34.4	18.3	36.9	45.6	24.2
Business	14.7	13.9	35.0	17.5	18.1	14.5	19.1	14.5	12.3
Initial Trouble Reports per Thousand Lines	153.8	265.8	101.7	179.8	176.1	111.3	188.8	151.8	176.7
Total MSA	153.4	259.2	100.1	176.4	173.9	125.3	189.9	145.2	170.7
Total Non MSA	157.5	303.8	146.7	195.8	198.7	44.7	178.8	237.3	201.9
Total Residence	217.7	309.4	146.4	218.1	240.7	134.6	241.8	211.1	210.2
Total Business	63.3	166.7	38.5	93.2	65.5	63.7	101.4	64.6	101.3
Troubles Found per Thousand Lines	122.6	183.9	81.1	143.5	120.4	90.0	149.1	117.3	141.5
Repeat Troubles as a Pct. of Trouble Reports	14.6%	17.7%	9.5%	14.3%	13.8%	19.8%	21.1%	22.2%	16.2%
Res. Complaints per Mill. Res. Access Lines	13.4	168.1	75.9	24.2	37.3	100.9	155.5	734.5	280.6
Bus. Complaints per Mill. Bus. Access Lines	3.3	70.1	9.0	5.6	6.1	37.7	33.3	60.1	61.7

NA: Not available

Please refer to text for notes and data qualifications

Table 9.1 (b)
Installation, Maintenance, & Customer Complaints
Other Price-Cap Companies - 2006

	CenturyTel	Cincinnati Bell	Citizens	Citizens Frontier	Embarq	Iowa Telecom	Windstream Alltel	Windstream Valor
ACCESS SERVICES PROVIDED TO CARRIERS -- SWITCHED ACCESS								
Percent Installation Commitments Met	93.5	100.0	89.2	0.8	90.5	62.9	93.0	88.4
Average Installation Interval (days)	18.6	15.8	23.1	11.3	12.8	17.4	5.3	10.2
Average Repair Interval (hours)	35.3	NA	8.8	98.5	1.8	16.9	4.6	3.1
ACCESS SERVICES PROVIDED TO CARRIERS -- SPECIAL ACCESS								
Percent Installation Commitments Met	91.2	97.6	86.9	16.3	93.0	86.9	93.5	86.7
Average Installation Interval (days)	14.0	17.2	14.4	42.3	10.8	1.6	7.5	10.2
Average Repair Interval (hours)	44.1	4.1	12.5	94.9	3.6	22.9	3.6	5.9
LOCAL SERVICES PROVIDED TO RESIDENTIAL AND BUSINESS CUSTOMERS								
Percent Installation Commitments Met	96.7	99.5	93.7	99.2	96.7	97.2	95.9	95.7
Residence	97.1	99.6	93.7	99.2	97.0	97.4	96.3	95.8
Business	95.3	98.8	94.1	98.9	94.5	95.9	91.5	94.8
Average Installation Interval (days)	1.0	2.4	4.9	4.8	1.9	1.4	2.6	2.8
Residence	0.9	2.0	4.2	4.1	1.8	1.4	2.5	2.8
Business	1.5	4.9	6.7	7.8	2.5	1.4	3.1	3.5
Average Out of Service Repair Interval (hours)	9.6	22.0	17.4	16.8	18.5	12.1	14.0	21.0
Residence	9.5	21.8	17.7	17.0	18.7	12.2	14.6	21.9
Business	9.8	17.3	15.6	15.4	16.6	10.6	11.7	18.6
Initial Trouble Reports per Thousand Lines	213.3	119.5	270.3	243.2	220.1	161.1	143.2	426.3
Total MSA	197.9	119.5	NA	216.0	193.5	163.8	126.5	401.4
Total Non MSA	226.9	NA	270.3	270.4	279.1	160.3	157.8	446.1
Total Residence	255.0	154.1	300.1	300.6	272.0	184.7	206.2	506.4
Total Business	93.4	48.6	182.1	125.3	98.6	83.3	47.7	211.8
Troubles Found per Thousand Lines	176.6	111.6	233.0	198.4	153.6	145.8	118.4	392.0
Repeat Troubles as a Pct. of Trouble Reports	27.9%	12.3%	17.4%	10.6%	23.3%	16.7%	15.8%	7.9%
Res. Complaints per Mill. Res. Access Lines	961.3	270.5	860.3	75.6	95.5	0.0	136.4	378.0
Bus. Complaints per Mill. Bus. Access Lines	83.5	88.9	228.1	569.0	25.7	0.0	40.7	150.2

NA: Not available

Please refer to text for notes and data qualifications

Table 9.2 (a)
Switch Downtime & Trunk Blocking
Bell Companies - 2006

	AT&T Ameritech	AT&T BellSouth	AT&T Pacific	AT&T Southwestern	AT&T SNET	Qwest	Verizon North	Verizon South	Verizon GTE
Total Access Lines in Thousands	14,820	18,429	14,767	12,199	1,787	12,082	12,958	17,776	13,187
Total Trunk Groups	818	2,462	1,159	636	90.0	2,462	782	980	1,511
Total Switches	1,438	1,615	778	1,835	167	1,310	1,298	1,351	2,409
Switches with Downtime									
Number of Switches	6	15	15	24	15	131	7	15	78
As a Percentage of Total Switches	0.4%	0.9%	1.9%	1.5%	9.0%	10.0%	0.5%	1.1%	3.2%
Average Switch Downtime in Seconds per Switch*									
For All Events	1.7	11.9	3.4	4.2	59.6	87.7	91.4	5.0	469.8
For Unscheduled Events Over 2 Minutes	1.6	11.5	2.5	3.7	58.3	81.9	91.4	4.8	462.1
For Unscheduled Downtime More Than 2 Minutes									
Number of Occurrences or Events	7	8	6	3	2	19	6	9	71
Events per Hundred Switches	0.5	0.5	0.8	0.2	1.2	1.5	0.5	0.7	2.9
Events per Million Access Lines	0.47	0.43	0.41	0.25	1.12	1.57	0.46	0.51	5.38
Average Outage Duration in Minutes	5.4	38.7	5.3	33.7	81.1	94.2	329.6	11.9	261.3
Average Lines Affected per Event in Thousands	16.4	14.5	39.0	5.3	6.9	1.7	9.4	10.8	1.7
Outage Line-Minutes per Event in Thousands	73.4	87.7	215.0	40.9	550.8	81.8	779.8	165.6	309.9
Outage Line-Minutes per 1,000 Access Lines	34.7	38.1	87.3	10.1	616.6	128.6	361.1	83.9	1,668.7
For Scheduled Downtime More Than 2 Minutes									
Number of Occurrences or Events	0	1	1	0	0	3	0	0	1
Events per Hundred Switches	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0
Events per Million Access Lines	0.00	0.05	0.07	0.00	0.00	0.25	0.00	0.00	0.08
Average Outage Duration in Minutes	NA	5.0	2.2	NA	NA	4.3	NA	NA	3.4
Avg. Lines Affected per Event in Thousands	NA	5.7	83.7	NA	NA	8.5	NA	NA	7.2
Outage Line-Minutes per Event in Thousands	NA	28.4	184.0	NA	NA	30.0	NA	NA	24.3
Outage Line-Minutes per 1,000 Access Lines	0.0	1.5	12.5	0.0	0.0	7.4	0.0	0.0	1.8
% Common Trunk Grps. Exceeding Blocking Objectives	0.00%	4.83%	1.81%	0.31%	0.00%	4.83%	2.43%	3.06%	0.93%

* 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 - 2006

	CenturyTel	Cincinnati Bell	Citizens	Citizens Frontier	Embarq	Iowa Telecom	Windstream Altel	Windstream Valor
Total Access Lines in Thousands	557	824	1,196	821	6,744	222	742	465
Total Trunk Groups	242	44	247	95	467	0	92	258
Total Switches	187	91	206	67	1,321	267	28	266
Switches with Downtime								
Number of Switches	0	6	5	2	110	8	12	30
As a Percentage of Total Switches	0.0%	6.6%	2.4%	3.0%	8.3%	3.0%	42.9%	11.3%
Average Switch Downtime in Seconds per Switch*								
For All Events	0.0	95.5	826.9	149.6	1,951.1	562.4	26,490.0	3,334.5
For Unscheduled Events Over 2 Minutes	NA	NA	826.9	149.6	2,172.2	563.1	45,489.9	3,180.5
For Unscheduled Downtime More Than 2 Minutes								
Number of Occurrences or Events	0	0	7	2	107	8	68	48
Events per Hundred Switches	0.0	0.0	3.4	3.0	8.1	3.0	242.9	18.0
Events per Million Access Lines	0.00	0.00	5.85	2.44	15.86	36.00	91.63	103.20
Average Outage Duration in Minutes	NA	NA	405.6	83.5	447.0	313.2	312.2	293.8
Average Lines Affected per Event in Thousands	NA	NA	3.0	3.0	8.5	0.4	1.3	0.5
Outage Line-Minutes per Event in Thousands	NA	NA	989.6	267.9	3,731.0	109.7	902.3	117.1
Outage Line-Minutes per 1,000 Access Lines	0.0	0.0	5,789.9	652.8	59,192.0	3,948.8	82,675.6	12,087.4
For Scheduled Downtime More Than 2 Minutes								
Number of Occurrences or Events	0	0	0	0	3	0	4	6
Events per Hundred Switches	0.0	0.0	0.0	0.0	0.2	0.0	14.3	2.3
Events per Million Access Lines	0.00	0.00	0.00	0.00	0.44	0.00	5.39	12.90
Average Outage Duration in Minutes	NA	NA	NA	NA	17.3	NA	124.3	113.8
Avg. Lines Affected per Event in Thousands	NA	NA	NA	NA	3.1	NA	1.6	0.6
Outage Line-Minutes per Event in Thousands	NA	NA	NA	NA	62.0	NA	220.4	60.3
Outage Line-Minutes per 1,000 Access Lines	0.0	0.0	0.0	0.0	27.6	0.0	1,187.9	777.5
% Common Trunk Grps. Exceeding Blocking Objectives	25.21%	4.55%	0.00%	0.00%	5.57%	0.00%	0.00%	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 - 2006

	AT&T Ameritech	AT&T BellSouth	AT&T Pacific	AT&T Southwestern	AT&T SNET	Qwest	Verizon North	Verizon South	Verizon GTE
Total Number of Outages									
1. Scheduled	0	1	1	0	0	3	0	0	1
2. Procedural Errors -- Telco. (Inst./Maint.)	0	0	3	0	0.0	0	0	1	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	0
5. Procedural Errors -- Other Vendors	0	0	0	1	2	2	1	0	0
6. Software Design	1	2	0	0	0	0	2	4	2
7. Hardware Design	1	0	0	0	0	0	0	0	0
8. Hardware Failure	5	0	2	2	0	11	3	2	14
9. Natural Causes	0	0	1	0	0	0	0	0	13
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	0	2	0	0	0	4	0	0	19
13. Massive Line Outage	0	0	0	0	0	1	0	0	0
14. Remote	0	1	1	0	0	3	0	0	1
15. Other/Unknown	0	0	0	0	0	0	0	0	3
Total Outage Line-Minutes per Thousand Access Lines									
1. Scheduled	0.0	1.5	12.5	0.0	0.0	7.4	0.0	0.0	1.8
2. Procedural Errors -- Telco. (Inst./Maint.)	0.0	0.0	26.2	0.0	0.0	0.0	0.0	58.8	0.0
3. Procedural Errors -- Telco. (Other)	0.0	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Procedural Errors -- System Vendors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. Procedural Errors -- Other Vendors	0.0	0.0	0.0	0.8	616.6	7.4	181.9	0.0	0.0
6. Software Design	9.2	10.5	0.0	0.0	0.0	0.0	10.4	7.6	1.2
7. Hardware Design	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8. Hardware Failure	17.8	0.0	55.9	9.2	0.0	43.8	168.8	16.4	425.3
9. Natural Causes	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	311.6
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	0.0	16.6	0.0	0.0	0.0	65.8	0.0	0.0	789.2
13. Massive Line Outage	0.0	0.0	0.0	0.0	0.0	10.1	0.0	0.0	0.0
14. Remote	0.0	0.0	0.0	0.0	0.0	1.4	0.0	1.0	109.5
15. Other/Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.9

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 - 2006

	CenturyTel	Cincinnati Bell	Citizens	Citizens Frontier	Embarq	Iowa Telecom	Windstream Alltel	Windstream Valor
Total Number of Outages								
1. Scheduled	0	0	0	0	3	0	4	6
2. Procedural Errors -- Telco. (Inst./Maint.)	0	0	0	0	11	0	2	0
3. Procedural Errors -- Telco. (Other)	0	0	0	0	0	0	0	0
4. Procedural Errors -- System Vendors	0	0	0	0	0	0	0	0
5. Procedural Errors -- Other Vendors	0	0	0	0	2	2	3	0
6. Software Design	0	0	0	0	8	2	4	3
7. Hardware Design	0	0	0	0	0	0	1	0
8. Hardware Failure	0	0	3	1	18	0	13	5
9. Natural Causes	0	0	0	0	12	0	9	2
10. Traffic Overload	0	0	0	0	0	0	0	0
11. Environmental	0	0	0	0	1	0	0	0
12. External Power Failure	0	0	4	1	4	3	6	10
13. Massive Line Outage	0	0	0	0	38	1	11	7
14. Remote	0	0	0	0	3	0	4	6
15. Other/Unknown	0	0	0	0	1	0	3	7
Total Outage Line-Minutes per Thousand Access Lines								
1. Scheduled	0.0	0.0	0.0	0.0	27.6	0.0	1,187.9	777.5
2. Procedural Errors -- Telco. (Inst./Maint.)	0.0	0.0	0.0	0.0	2,153.5	0.0	266.6	0.0
3. Procedural Errors -- Telco. (Other)	0.0	0.0	0.0	0.0	5,281.3	0.0	0.0	0.0
4. Procedural Errors -- System Vendors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. Procedural Errors -- Other Vendors	0.0	0.0	0.0	0.0	2,513.8	352.9	526.1	0.0
6. Software Design	0.0	0.0	0.0	0.0	2,008.1	3,104.2	1,840.4	47.6
7. Hardware Design	0.0	0.0	0.0	0.0	0.0	0.0	67.4	0.0
8. Hardware Failure	0.0	0.0	5,065.3	26.6	9,907.0	0.0	2,456.5	1,378.9
9. Natural Causes	0.0	0.0	0.0	0.0	8,923.7	0.0	70,107.3	603.8
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	298.0	0.0	0.0	0.0
12. External Power Failure	0.0	0.0	724.6	626.3	3,042.9	399.2	441.9	2,447.9
13. Massive Line Outage	0.0	0.0	0.0	0.0	25,030.5	92.4	6,238.8	3,460.8
14. Remote	0.0	0.0	0.0	0.0	24.1	0.0	590.1	3,938.1
15. Other/Unknown	0.0	0.0	0.0	0.0	9.1	0.0	140.3	210.1

Please refer to text for notes and data qualifications

**Table 9.4
Customer Perception Surveys - Percent of Customers Dissatisfied
Bell Companies - 2006**

	AT&T Ameritech	AT&T BellSouth	AT&T Pacific	AT&T Southwestern	AT&T SNET	Qwest	Verizon North	Verizon South	Verizon GTE
Installations:									
Residential	7.38%	6.25%	6.93%	6.59%	8.29%	3.81%	5.65%	7.60%	7.32%
Small Business	8.88%	10.03%	7.34%	7.63%	8.22%	5.69%	9.31%	12.95%	11.75%
Large Business	1.88%	5.26%	1.57%	1.82%	NA	4.00%	26.09%	19.23%	13.48%
Repairs:									
Residential	9.53%	8.96%	10.89%	9.52%	13.75%	6.41%	20.06%	26.15%	16.43%
Small Business	8.23%	7.47%	8.29%	7.28%	8.55%	6.75%	11.77%	11.54%	9.97%
Large Business	2.01%	6.22%	3.40%	1.32%	NA	4.40%	15.75%	17.52%	13.29%
Business Office:									
Residential	8.34%	7.03%	5.84%	7.34%	9.43%	1.60%	6.24%	7.20%	10.79%
Small Business	6.93%	10.43%	5.57%	6.70%	9.08%	2.29%	6.51%	8.47%	10.09%
Large Business	0.93%	7.12%	6.82%	1.02%	12.09%	1.10%	38.62%	37.02%	26.92%

NA: Not available

Please refer to text for notes and data qualifications

**Table 9.5
Customer Perception Surveys - Sample Sizes
Bell Companies - 2006**

	AT&T Ameritech	AT&T BellSouth	AT&T Pacific	AT&T Southwestern	AT&T SNET	Qwest	Verizon North	Verizon South	Verizon GTE
Installations:									
Residential	10,832	39,188	11,518	10,837	4,828	35,917	20,698	16,304	16,427
Small Business	12,979	41,396	13,313	12,677	2,166	16,769	19,938	15,768	16,737
Large Business	648	6,992	609	688	0	815	161	234	141
Repairs:									
Residential	10,801	27,833	12,002	10,672	2,422	30,966	20,691	15,931	16,809
Small Business	13,212	40,882	12,962	13,096	1,754	26,134	20,223	15,910	16,780
Large Business	620	6,628	581	632	0	5,892	165	234	143
Business Office:									
Residential	21,546	36,938	21,179	21,505	2,896	33,158	9,209	8,822	11,358
Small Business	21,513	10,531	19,143	20,738	1,112	16,629	3,857	3,201	2,954
Large Business	676	590	1,428	726	93	638	145	208	130

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 reports²) upon which this infrastructure summary is based are due April 1 for the previous calendar year. This infrastructure section includes data through calendar year 2006.³ The most recent data were due April 1, 2007. 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 1996 through 2006. 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. 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 mergers of SBC and BellSouth with AT&T.

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 technologies either

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.

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 is considerably lower than it was ten years ago, but the number of ISDN switches has increased in 2006. In 2006, the reported number of equipped ISDN Primary Rate Interfaces increased by about 4.6 percent, from 565,900 to 592,064. ISDN basic rate services remained virtually static with increased use of broadband technologies including xDSL.

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 nearly doubled over the decade 1996-2006, with about 72,423 new fiber sheath kilometers being reported in 2006. 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 and 2006. Total interoffice circuit links have steadily declined since 2002. 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

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 kilometers. In general, care should be exercised in interpreting aggregate fiber data when

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 245 million copper-pair mainframe terminations in their central offices for local loop use in 2006. In comparison, about 3.5 million fiber strands (associated with loop plant) were terminated in central offices by end-of-year 2006. The data show that the number of these terminations increased by more than 9% during 2006. In 2006 DS-3 terminations on fiber facilities grew by about 20%. 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 xDSL services.¹² Readers interested in more disaggregated information may wish to examine data at a more localized level than presented here.¹³

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) at 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 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

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Local Switches	13,583	16,186	16,117	16,261	14,841	14,837	14,051	14,053	14,064	11,997	11,995
Tandems	413	481	493	492	504	517	526	544	568	529	528
Hosts	2,065	2,515	2,471	2,461	2,401	2,338	2,274	2,169	2,156	2,516	2,516
Remotes (Stand Alone Only)	5,654	7,164	7,977	8,103	7,406	7,412	7,383	7,382	7,312	6,520	6,543
Total Switches	13,763	16,414	16,375	16,489	15,041	15,097	14,338	14,977	14,399	12,321	12,315
Analog Stored Program Control	598	540	407	263	184	139	106	84	73	65	64
Digital Stored Program Control	12,770	15,706	15,968	16,226	14,857	14,958	14,231	14,293	14,326	12,256	12,251
Total Number Access Lines in Service (000)	104,934	150,043	155,530	159,364	160,557	155,543	148,292	142,698	136,057	127,026	118,316
Analog Stored Program Control Lines Served	20,746	20,762	15,615	9,848	6,711	4,809	3,254	2,436	1,981	1,566	1,499
Digital Stored Program Control Lines Served	83,901	129,851	140,504	149,694	152,884	149,752	143,632	139,411	134,076	125,460	116,817
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	10,521	13,920	15,152	15,984	14,793	14,954	14,259	14,345	14,366	12,292	12,286
Total Switches Equipped with ISDN	2,773	4,697	5,418	5,775	5,394	5,449	5,712	5,654	5,787	5,894	5,910
Lines with Access to ISDN (000)	67,431	107,501	122,741	129,446	132,358	128,146	123,872	118,653	115,561	107,159	100,053
Basic Rate ISDN (BRI) Interfaces Equipped	1,001,899	1,800,034	2,493,399	2,729,944	2,813,054	3,123,128	2,862,383	2,585,347	2,637,353	2,568,388	2,568,395
Primary Rate ISDN (PRI) Interfaces Equipped	43,110	136,771	235,760	336,620	524,727	771,537	757,170	558,462	567,255	564,900	592,064

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T Ameritech Companies

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Local Switches	1,410	1,435	1,419	1,432	1,447	1,451	1,455	1,439	1,436	1,439	1,438
Tandems	46	47	51	52	53	55	63	65	87	86	86
Hosts	236	243	236	234	234	235	236	236	236	235	232
Remotes (Stand Alone Only)	743	769	764	775	790	789	790	776	779	781	772
Total Switches	1,456	1,482	1,470	1,485	1,500	1,506	1,518	1,504	1,523	1,525	1,524
Analog Stored Program Control	71	58	46	39	37	34	24	16	8	8	8
Digital Stored Program Control	1,385	1,424	1,424	1,446	1,463	1,472	1,494	1,488	1,515	1,517	1,516
Total Number Access Lines in Service (000)	19,553	20,335	20,790	21,036	20,898	20,074	19,151	18,309	17,287	16,050	14,820
Analog Stored Program Control Lines Served	3,228	2,793	2,193	1,811	1,730	1,491	927	562	276	244	221
Digital Stored Program Control Lines Served	16,324	17,541	18,597	19,225	19,168	18,583	18,224	17,747	17,011	15,806	14,599
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	1,438	1,463	1,451	1,476	1,492	1,496	1,504	1,504	1,523	1,525	1,524
Total Switches Equipped with ISDN	601	695	784	816	822	844	933	863	883	908	906
Lines with Access to ISDN (000)	13,802	15,464	16,804	17,472	17,388	16,814	16,810	16,160	15,531	14,404	13,248
Basic Rate ISDN (BRI) Interfaces Equipped	226,355	180,280	220,867	259,312	271,468	283,600	290,367	282,643	282,159	280,365	280,495
Primary Rate ISDN (PRI) Interfaces Equipped	4,247	14,569	24,800	38,037	53,926	70,542	75,184	75,766	79,519	80,609	81,487

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T BellSouth Companies

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Local Switches	1,650	1,654	1,653	1,649	1,644	1,642	1,637	1,629	1,625	1,612	1,608
Tandems	70	70	71	71	73	77	77	78	79	78	76
Hosts	297	317	307	306	297	304	305	295	295	292	297
Remotes (Stand Alone Only)	747	766	765	765	776	819	829	877	811	810	839
Total Switches	1,670	1,674	1,673	1,668	1,665	1,665	1,664	1,658	1,653	1,637	1,634
Analog Stored Program Control	130	106	100	83	69	54	44	41	39	31	30
Digital Stored Program Control	1,540	1,568	1,573	1,585	1,596	1,611	1,620	1,617	1,614	1,606	1,604
Total Number Access Lines in Service (000)	22,019	23,080	23,909	24,458	24,558	23,756	22,955	22,206	21,317	19,944	18,740
Analog Stored Program Control Lines Served	4,020	3,746	3,536	2,972	2,362	1,729	1,309	1,154	1,030	699	699
Digital Stored Program Control Lines Served	17,999	19,334	20,373	21,486	22,197	22,027	21,646	21,052	20,287	19,244	18,041
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	1,652	1,674	1,673	1,668	1,665	1,665	1,664	1,658	1,653	1,637	1,634
Total Switches Equipped with ISDN	518	584	596	645	691	678	697	701	809	811	781
Lines with Access to ISDN (000)	12,948	14,894	15,980	17,413	18,396	17,660	17,457	16,927	17,536	16,607	15,472
Basic Rate ISDN (BRI) Interfaces Equipped	122,043	167,512	183,458	202,391	223,294	228,898	230,066	269,254	281,088	246,880	273,280
Primary Rate ISDN (PRI) Interfaces Equipped	9,154	21,389	33,564	51,669	72,347	85,983	81,328	81,682	86,399	86,185	86,315

Source: ARMIS Report 43-07.

**Table 10.1
Switching Data
AT&T Pacific Telesis Companies**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Local Switches	833	810	801	799	778	781	779	779	778	779	778
Tandems	20	21	24	24	24	31	31	31	35	35	35
Hosts	114	135	121	116	189	114	114	116	116	115	115
Remotes (Stand Alone Only)	310	364	361	350	361	360	358	359	357	357	357
Total Switches	853	830	824	822	802	812	810	807	813	814	813
Analog Stored Program Control	72	49	38	17	0	0	0	0	0	0	0
Digital Stored Program Control	781	781	786	805	802	812	810	807	813	814	813
Total Number Access Lines in Service (000)	16,460	17,155	18,158	18,285	18,236	17,788	17,248	16,693	16,156	15,589	14,767
Analog Stored Program Control Lines Served	3,354	2,422	1,825	754	0	0	0	0	0	0	0
Digital Stored Program Control Lines Served	13,106	14,733	16,333	17,531	18,236	17,788	17,248	16,693	16,156	15,589	14,767
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	794	791	803	796	778	812	810	807	813	814	813
Total Switches Equipped with ISDN	473	531	551	574	574	562	560	588	592	592	592
Lines with Access to ISDN (000)	11,895	13,632	15,134	16,529	17,589	16,966	16,427	16,251	15,759	15,201	14,388
Basic Rate ISDN (BRI) Interfaces Equipped	304,182	314,003	468,493	489,369	421,744	630,816	615,934	347,052	339,563	339,695	339,745
Primary Rate ISDN (PRI) Interfaces Equipped	13,448	20,125	31,345	47,794	49,712	94,742	54,902	34,378	34,926	35,040	57,074

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T Southern New England

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Local Switches					139	137	136	161	161	160	167
Tandems					6	1	6	7	7	7	7
Hosts					79	81	32	30	30	30	28
Remotes (Stand Alone Only)					71	56	73	82	82	81	88
Total Switches					139	137	136	165	168	167	174
Analog Stored Program Control					3	0	0	0	0	0	0
Digital Stored Program Control					136	137	136	165	168	167	174
Total Number Access Lines in Service (000)					2,450	2,334	2,258	2,173	2,069	1,941	1,787
Analog Stored Program Control Lines Served					125	0	0	0	0	0	0
Digital Stored Program Control Lines Served					2,325	2,334	2,258	2,173	2,069	1,941	1,787
Total Switches Equipped w/SS7-394 (InterLATA) Svc.					141	137	136	165	168	167	174
Total Switches Equipped with ISDN					74	101	137	103	107	106	105
Lines with Access to ISDN (000)					1,845	2,031	2,030	1,870	1,776	1,660	1,524
Basic Rate ISDN (BRI) Interfaces Equipped					40,569	38,423	43,254	51,076	51,138	50,348	50,122
Primary Rate ISDN (PRI) Interfaces Equipped					92,208	169,488	192,720	8,465	8,413	8,390	8,490

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T Southwestern Bell Companies

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Local Switches	1,670	1,690	1,644	1,658	1,663	1,660	1,652	1,658	1,654	1,639	1,635
Tandems	60	60	67	56	69	70	70	71	68	67	67
Hosts	241	267	230	228	229	230	244	245	246	246	245
Remotes (Stand Alone Only)	1,077	1,077	1,158	1,163	1,152	1,150	1,150	1,101	1,093	1,079	1,074
Total Switches	1,730	1,750	1,711	1,727	1,715	1,716	1,722	1,728	1,722	1,706	1,702
Analog Stored Program Control	162	136	115	88	67	46	34	23	23	23	23
Digital Stored Program Control	1,568	1,614	1,596	1,639	1,648	1,670	1,688	1,705	1,699	1,683	1,679
Total Number Access Lines in Service (000)	14,104	15,306	15,872	16,287	16,411	15,842	15,294	14,670	13,912	13,034	12,199
Analog Stored Program Control Lines Served	5,657	5,055	4,119	3,107	2,246	1,448	963	652	615	569	531
Digital Stored Program Control Lines Served	8,447	10,251	11,753	13,180	14,165	14,394	14,331	14,018	13,297	12,465	11,668
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	1,597	1,724	1,707	1,724	1,713	1,713	1,722	1,728	1,722	1,706	1,702
Total Switches Equipped with ISDN	331	331	360	428	441	461	472	479	498	497	497
Lines with Access to ISDN (000)	9,440	10,577	13,361	12,158	12,169	12,056	11,241	10,721	10,069	9,361	8,726
Basic Rate ISDN (BRI) Interfaces Equipped	104,604	185,018	225,427	267,190	281,459	310,326	308,501	309,907	309,172	304,893	306,233
Primary Rate ISDN (PRI) Interfaces Equipped	6,150	15,434	31,570	46,533	59,513	68,236	68,793	71,035	70,860	68,395	72,129

Source: ARMIS Report 43-07.

**Table 10.1
Switching Data
Qwest Companies**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Local Switches	1,521	1,441	1,446	1,428	1,400	1,354	1,337	1,322	1,323	1,319	1,311
Tandems	51	51	51	51	53	51	56	56	56	56	56
Hosts	248	249	253	251	245	231	226	217	219	218	216
Remotes (Stand Alone Only)	852	781	786	752	733	680	651	631	630	630	626
Total Switches	1,534	1,458	1,441	1,414	1,363	1,351	1,336	1,337	1,337	1,334	1,326
Analog Stored Program Control	146	95	71	20	1	1	0	0	0	0	0
Digital Stored Program Control	1,387	1,363	1,370	1,394	1,362	1,350	1,336	1,337	1,337	1,334	1,326
Total Number Access Lines in Service (000)	15,405	16,132	16,859	17,449	17,626	16,664	15,682	14,277	13,425	12,817	12,082
Analog Stored Program Control Lines Served	4,245	3,574	2,501	636	30	28	0	0	0	0	0
Digital Stored Program Control Lines Served	11,159	13,286	14,948	16,991	16,634	15,654	14,277	13,425	13,425	12,817	12,082
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	1,143	1,346	1,350	1,340	1,311	1,311	1,312	1,315	1,315	1,311	1,303
Total Switches Equipped with ISDN	327	557	583	623	603	587	635	638	638	636	852
Lines with Access to ISDN (000)	9,668	11,189	12,522	14,611	14,082	13,153	12,575	11,806	11,806	11,245	11,055
Basic Rate ISDN (BRI) Interfaces Equipped	146,570	165,733	167,623	176,696	174,079	199,302	201,232	195,674	195,674	195,729	193,070
Primary Rate ISDN (PRI) Interfaces Equipped	2,734	4,867	6,112	7,822	11,046	61,993	65,672	67,908	67,908	67,912	68,303

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
Verizon - Bell Atlantic Companies

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Local Switches		2,703	2,616	2,636	2,634	2,622	2,623	2,628	2,639	2,636	2,649
Tandems		67	67	74	76	81	87	102	101	100	100
Hosts		365	369	381	386	382	464	375	371	372	374
Remotes (Stand Alone Only)		1,447	1,405	1,437	1,435	1,424	1,424	1,441	1,445	1,438	1,447
Total Switches		2,737	2,652	2,682	2,683	2,675	2,682	2,705	2,702	2,712	2,719
Analog Stored Program Control		86	37	16	7	4	4	4	3	3	3
Digital Stored Program Control		2,651	2,615	2,666	2,676	2,671	2,677	2,701	2,699	2,709	2,716
Total Number Access Lines in Service (000)		39,714	40,838	41,833	41,669	40,582	38,810	38,003	36,105	33,520	30,734
Analog Stored Program Control Lines Served		2,975	1,442	568	218	112	55	67	60	54	48
Digital Stored Program Control Lines Served		36,739	39,396	41,266	41,451	40,469	38,754	37,936	36,045	33,466	30,686
Total Switches Equipped w/SS7-394 (InterLATA) Svc.		2,707	2,641	2,671	2,672	2,664	2,682	2,704	2,700	2,706	2,713
Total Switches Equipped with ISDN		1,220	1,298	1,304	1,305	1,303	1,328	1,308	1,289	1,301	1,295
Lines with Access to ISDN (000)		31,125	34,367	36,336	36,825	35,636	34,012	32,010	30,667	27,567	25,001
Basic Rate ISDN (BRI) Interfaces Equipped		660,542	1,088,060	1,167,022	1,226,934	1,258,543	1,003,709	966,634	1,015,554	996,472	933,795
Primary Rate ISDN (PRI) Interfaces Equipped		43,922	71,983	97,177	123,323	150,029	149,282	151,276	149,131	150,081	149,513

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
Verizon - GTE Companies

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Local Switches	6,499	6,453	6,538	6,659	5,136	5,190	4,432	4,437	4,448	2,413	2,409
Tandems	166	165	162	164	150	151	136	134	135	100	101
Hosts	929	939	955	945	742	761	653	655	643	1,008	1,009
Remotes (Stand Alone Only)	1,925	1,960	2,738	2,861	2,088	2,134	2,108	2,115	2,115	1,344	1,340
Total Switches	6,520	6,483	6,604	6,691	5,174	5,235	4,470	4,473	4,481	2,426	2,423
Analog Stored Program Control	17	10	0	0	0	0	0	0	0	0	0
Digital Stored Program Control	6,109	6,305	6,604	6,691	5,174	5,235	4,470	4,473	4,481	2,426	2,423
Total Number Access Lines in Service (000)	17,393	18,321	19,105	20,015	18,709	18,503	16,894	16,366	15,785	14,131	13,187
Analog Stored Program Control Lines Served	242	197	0	0	0	0	0	0	0	0	0
Digital Stored Program Control Lines Served	16,866	17,966	19,105	20,015	18,709	18,503	16,894	16,366	15,785	14,131	13,187
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	3,897	4,215	5,527	6,309	5,021	5,156	4,429	4,464	4,472	2,426	2,423
Total Switches Equipped with ISDN	523	779	1,246	1,385	884	913	950	974	971	843	882
Lines with Access to ISDN (000)	9,678	10,619	14,574	14,926	14,064	13,830	13,320	12,908	12,418	11,114	10,639
Basic Rate ISDN (BRI) Interfaces Equipped	98,145	126,946	139,471	167,964	173,507	173,220	169,320	163,107	163,005	154,006	191,655
Primary Rate ISDN (PRI) Interfaces Equipped	7,377	16,465	36,386	47,588	62,652	70,524	69,289	67,952	70,099	68,288	68,753

Source: ARMIS Report 43-07.

Table 10.2
Transmission System Data
Total - All Companies

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Sheath Kilometers:											
Total Sheath Kilometers	5,581,057	5,651,008	5,763,419	5,846,319	5,761,869	5,848,516	5,791,105	5,851,790	5,940,199	5,968,864	6,079,810
Copper	5,125,753	5,161,439	5,212,873	5,255,778	5,132,364	5,166,537	5,086,669	5,118,314	5,166,481	5,166,382	5,184,960
Fiber	448,098	483,534	536,520	576,868	613,646	665,805	692,031	720,877	763,132	811,896	884,319
Other	7,207	6,035	14,026	13,672	15,860	16,174	12,406	12,600	10,587	10,585	10,511
Interoffice Working Facilities:											
Total Circuit Links	24,244,165	28,350,359	32,231,481	41,879,877	48,661,944	52,923,180	52,949,635	52,112,866	50,950,480	49,057,883	47,498,952
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	268,251,039	261,389,356	291,636,650	316,611,286	334,896,812	358,698,149	312,233,882	297,583,679	300,722,796	279,689,574	281,237,051
Copper	227,713,136	229,811,055	239,252,059	242,631,789	248,907,611	252,260,939	244,927,670	238,212,199	235,623,927	234,032,992	234,866,729
Fiber Digital Carrier	40,533,114	31,567,484	52,379,288	73,974,959	85,985,244	106,433,399	67,303,642	59,370,412	65,098,642	45,656,354	46,370,079
Other	4,789	10,817	5,303	4,538	3,957	3,811	2,570	1,068	227	228	243
Total Working Channels	161,508,833	166,911,016	194,840,965	207,743,891	218,927,639	227,878,106	169,157,091	155,978,400	148,278,295	137,253,984	125,767,269
Copper	144,505,778	145,855,201	154,355,633	154,646,229	157,839,973	152,364,455	137,228,369	127,261,709	117,672,917	110,032,804	100,254,451
Fiber Digital Carrier	17,000,345	21,052,720	40,483,024	52,850,716	61,085,767	75,512,132	31,927,283	28,716,169	30,605,295	27,221,095	25,512,742
Other	2,710	3,095	2,308	246,946	1,899	1,519	1,439	522	83	86	76
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	213,009,375	214,933,502	218,990,613	218,470,177	221,252,639	238,862,029	242,252,929	242,520,915	242,554,731	244,216,752	245,371,644
Fiber Strands Term in the CO (Loop Plant Only)	1,365,991	1,584,576	1,946,608	2,005,074	2,350,285	2,744,584	3,098,809	2,705,921	2,831,699	3,207,029	3,500,161
Fiber Term at Customer Premises DS1 Rate	268,533	318,480	461,763	583,464	745,685	1,241,244	1,291,904	1,689,969	1,755,955	2,143,341	2,485,508
Fiber Term at Customer Premises DS3 Rate & Higher	31,370	29,261	51,265	83,151	180,236	219,108	203,457	261,968	256,358	337,313	405,344
ISDN Capable Lines	NA	NA	NA	122,685,632	117,218,563	106,353,524	106,941,324	96,846,685	83,688,355	79,347,516	74,228,313

NA: Not available

Source: ARMIS Report 43-07.

**Table 10.2
Transmission System Data
AT&T Ameritech Companies**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Sheath Kilometers:											
Total Sheath Kilometers	575,407	586,712	598,858	601,779	612,988	629,321	636,725	642,674	652,181	657,922	665,745
Copper	526,955	533,491	541,197	540,170	546,338	555,024	558,670	562,163	570,185	573,316	575,852
Fiber	47,676	52,450	56,687	60,837	65,632	73,334	77,084	79,541	81,711	84,319	89,607
Other	776	771	974	972	1,020	964	971	970	286	286	286
Interoffice Working Facilities:											
Total Circuit Links	3,577,253	4,118,183	4,912,927	5,990,907	6,753,643	7,625,684	8,084,023	7,633,513	7,372,538	7,241,746	7,129,563
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	33,365,840	34,740,814	36,301,862	37,842,246	39,092,223	40,436,388	42,145,712	38,326,987	38,922,520	39,012,822	39,331,278
Copper	29,571,017	29,797,059	30,063,819	30,255,769	30,775,153	30,444,126	30,690,174	34,469,562	34,918,499	33,028,372	33,035,248
Fiber Digital Carrier	3,794,823	4,943,755	6,238,243	7,586,477	8,317,070	9,992,262	11,455,538	3,857,425	4,004,021	5,984,450	6,296,030
Other	0	0	0	0	0	0	0	0	0	0	0
Total Working Channels	20,506,219	21,152,075	21,782,557	22,227,572	22,495,633	21,786,411	20,997,868	20,239,795	19,291,809	18,052,604	16,644,117
Copper	18,896,376	19,082,995	19,216,231	19,135,507	18,993,978	18,124,703	17,272,552	18,147,879	17,221,055	15,038,891	13,668,393
Fiber Digital Carrier	1,609,843	2,069,080	2,566,326	3,092,065	3,501,655	3,661,708	3,725,316	2,091,916	2,070,754	3,013,713	2,975,724
Other	0	0	0	0	0	0	0	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	28,693,470	28,970,660	29,303,138	29,605,539	30,212,004	29,938,625	30,208,945	30,632,552	30,761,065	30,795,573	30,872,199
Fiber Strands Term in the CO (Loop Plant Only)	103,648	123,302	141,621	165,171	205,342	275,069	300,927	248,340	265,087	283,612	311,376
Fiber Term at Customer Premises DS1 Rate	39,124	46,366	53,506	62,090	78,822	106,984	118,927	318,417	345,032	384,053	414,963
Fiber Term at Customer Premises DS3 Rate & Higher	3,874	4,453	5,145	5,788	7,188	9,583	10,810	26,849	35,916	41,763	52,558
ISDN Capable Lines	NA	NA	NA	9,499,034	9,469,137	9,054,353	8,618,397	8,050,722	7,567,384	6,926,378	6,615,363

NA: Not available

Source: ARMIS Report 43-07.

**Table 10.2
Transmission System Data
AT&T BellSouth Companies**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Sheath Kilometers:											
Total Sheath Kilometers	1,034,601	1,050,186	1,074,896	1,094,569	1,115,897	1,134,363	1,145,506	1,155,144	1,170,351	1,187,686	1,206,054
Copper	943,090	951,758	965,108	973,995	983,221	989,541	992,446	994,980	1,000,413	1,003,470	1,005,800
Fiber	90,093	96,852	105,335	116,507	129,209	141,356	149,609	156,707	166,476	180,754	196,813
Other	1,418	1,576	4,453	4,067	3,466	3,466	3,452	3,457	3,462	3,462	3,441
Interoffice Working Facilities:											
Total Circuit Links	5,245,925	6,107,816	6,134,728	8,564,658	9,828,726	10,690,256	10,835,682	10,539,995	10,306,408	10,211,775	10,211,260
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	37,866,890	39,550,588	40,957,871	42,025,575	38,493,186	39,191,848	39,822,163	39,957,594	40,455,852	40,680,315	40,696,573
Copper	30,903,216	31,270,774	31,917,878	31,849,537	31,600,665	31,708,156	30,263,142	30,684,759	29,089,610	28,874,470	29,026,401
Fiber Digital Carrier	6,962,832	8,278,972	9,039,151	10,175,104	6,891,115	7,481,596	9,557,876	9,272,835	11,366,242	11,805,845	11,670,172
Other	842	842	842	934	1,406	2,096	1,145	0	0	0	0
Total Working Channels	26,230,400	27,921,162	29,836,968	30,422,706	26,262,694	25,989,359	25,039,974	24,334,185	23,426,354	22,237,045	20,660,819
Copper	20,318,019	20,708,890	21,233,672	21,237,643	20,311,329	19,864,164	17,250,216	16,854,022	14,456,834	13,286,993	12,258,177
Fiber Digital Carrier	5,912,292	7,212,190	8,603,214	9,184,935	5,950,949	6,324,563	7,789,007	7,480,163	8,969,520	8,950,052	8,402,642
Other	89	82	82	128	416	632	751	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	26,342,776	26,703,438	27,082,625	26,602,864	31,771,617	48,789,643	49,853,210	51,027,738	52,265,386	53,401,516	54,143,046
Fiber Strands Term in the CO (Loop Plant Only)	138,364	157,957	185,416	205,840	226,360	248,433	310,092	322,590	351,606	391,378	417,140
Fiber Term at Customer Premises DS1 Rate	27,482	36,911	50,431	67,886	85,205	93,687	593,755	448,233	474,787	514,177	705,099
Fiber Term at Customer Premises DS3 Rate & Higher	5,353	6,847	8,974	35,492	94,022	107,998	112,931	121,680	129,894	140,319	144,903
ISDN Capable Lines	NA	NA	NA	13,049,642	13,111,821	12,636,844	16,230,309	16,065,806	15,764,831	15,739,843	15,543,607

NA: Not available

Source: ARMIS Report 43-07.