

## 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.<sup>1</sup> This summary is intended to highlight changes in the use of technology in the local telephone company plant. The data (ARMIS 43-07 reports<sup>2</sup>) 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.<sup>3</sup> 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.<sup>4</sup> Most of the eliminated items relate to switching technologies that have

---

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](http://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).<sup>5</sup> 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/>>.<sup>6</sup> 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.<sup>7</sup> 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

---

*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](http://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.<sup>8</sup>

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.<sup>9</sup> 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.<sup>10</sup>

---

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.<sup>11</sup> 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.<sup>12</sup> Readers interested in more disaggregated information may wish to examine data at a more localized level than presented here.<sup>13</sup>

---

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](http://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/](http://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
<b>Total Switches</b>	<b>15,740</b>	<b>16,486</b>	<b>16,448</b>	<b>16,392</b>	<b>16,659</b>	<b>15,092</b>	<b>15,109</b>	<b>14,353</b>	<b>14,376</b>	<b>14,399</b>	<b>12,321</b>
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
<b>Total Number Access Lines in Service (000)</b>	<b>138,144</b>	<b>143,239</b>	<b>150,043</b>	<b>155,530</b>	<b>161,778</b>	<b>160,557</b>	<b>155,543</b>	<b>148,292</b>	<b>142,698</b>	<b>136,057</b>	<b>127,026</b>
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
<b>Total Switches Equipped w/SS7-394 (InterLATA) Svc.</b>	<b>11,742</b>	<b>13,171</b>	<b>13,879</b>	<b>15,148</b>	<b>16,137</b>	<b>14,822</b>	<b>14,954</b>	<b>14,258</b>	<b>14,342</b>	<b>14,366</b>	<b>12,292</b>
<b>Total Switches Equipped with ISDN</b>	<b>3,256</b>	<b>3,852</b>	<b>4,681</b>	<b>5,392</b>	<b>5,809</b>	<b>5,414</b>	<b>5,465</b>	<b>5,664</b>	<b>5,651</b>	<b>5,787</b>	<b>5,694</b>
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
<b>Total Switches</b>	<b>1,654</b>	<b>1,534</b>	<b>1,492</b>	<b>1,458</b>	<b>1,441</b>	<b>1,414</b>	<b>1,363</b>	<b>1,351</b>	<b>1,336</b>	<b>1,337</b>	<b>1,334</b>
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
<b>Total Number Access Lines in Service (000)</b>	<b>14,817</b>	<b>15,405</b>	<b>16,132</b>	<b>16,859</b>	<b>17,449</b>	<b>17,626</b>	<b>16,664</b>	<b>15,682</b>	<b>14,277</b>	<b>13,425</b>	<b>12,817</b>
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
<b>Total Switches Equipped w/SS7-394 (InterLATA) Svc.</b>	<b>1,116</b>	<b>1,143</b>	<b>1,305</b>	<b>1,346</b>	<b>1,350</b>	<b>1,340</b>	<b>1,311</b>	<b>1,311</b>	<b>1,312</b>	<b>1,315</b>	<b>1,311</b>
<b>Total Switches Equipped with ISDN</b>	<b>262</b>	<b>327</b>	<b>541</b>	<b>557</b>	<b>583</b>	<b>623</b>	<b>603</b>	<b>587</b>	<b>635</b>	<b>638</b>	<b>636</b>
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
<b>Total Switches</b>	<b>1,461</b>	<b>1,456</b>	<b>1,482</b>	<b>1,470</b>	<b>1,485</b>	<b>1,500</b>	<b>1,506</b>	<b>1,518</b>	<b>1,504</b>	<b>1,523</b>	<b>1,525</b>
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
<b>Total Number Access Lines in Service (000)</b>	<b>19,310</b>	<b>19,553</b>	<b>20,335</b>	<b>20,790</b>	<b>21,036</b>	<b>20,898</b>	<b>20,074</b>	<b>19,151</b>	<b>18,309</b>	<b>17,287</b>	<b>16,050</b>
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
<b>Total Switches Equipped w/SS7-394 (InterLATA) Svc.</b>	<b>1,400</b>	<b>1,438</b>	<b>1,463</b>	<b>1,451</b>	<b>1,476</b>	<b>1,492</b>	<b>1,496</b>	<b>1,504</b>	<b>1,504</b>	<b>1,523</b>	<b>1,525</b>
<b>Total Switches Equipped with ISDN</b>	<b>489</b>	<b>601</b>	<b>695</b>	<b>784</b>	<b>816</b>	<b>822</b>	<b>844</b>	<b>933</b>	<b>863</b>	<b>883</b>	<b>908</b>
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
<b>Total Switches</b>	<b>860</b>	<b>853</b>	<b>830</b>	<b>824</b>	<b>822</b>	<b>802</b>	<b>812</b>	<b>810</b>	<b>807</b>	<b>813</b>	<b>814</b>
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
<b>Total Number Access Lines in Service (000)</b>	<b>16,021</b>	<b>16,460</b>	<b>17,155</b>	<b>18,158</b>	<b>18,285</b>	<b>18,236</b>	<b>17,788</b>	<b>17,248</b>	<b>16,693</b>	<b>16,156</b>	<b>15,589</b>
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
<b>Total Switches Equipped w/SS7-394 (InterLATA) Svc.</b>	<b>772</b>	<b>794</b>	<b>791</b>	<b>803</b>	<b>796</b>	<b>778</b>	<b>812</b>	<b>810</b>	<b>807</b>	<b>813</b>	<b>814</b>
<b>Total Switches Equipped with ISDN</b>	<b>417</b>	<b>473</b>	<b>531</b>	<b>551</b>	<b>574</b>	<b>574</b>	<b>562</b>	<b>560</b>	<b>588</b>	<b>592</b>	<b>592</b>
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
<b>Total Switches</b>					<b>143</b>	<b>139</b>	<b>137</b>	<b>136</b>	<b>165</b>	<b>168</b>	<b>167</b>
Analog Stored Program Control					6	3	0	0	0	0	0
Digital Stored Program Control					137	136	137	136	165	168	167
<b>Total Number Access Lines in Service (000)</b>					<b>2,414</b>	<b>2,450</b>	<b>2,334</b>	<b>2,258</b>	<b>2,173</b>	<b>2,069</b>	<b>1,941</b>
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
<b>Total Switches Equipped w/SS7-394 (InterLATA) Svc.</b>					<b>143</b>	<b>141</b>	<b>137</b>	<b>136</b>	<b>165</b>	<b>168</b>	<b>167</b>
<b>Total Switches Equipped with ISDN</b>					<b>74</b>	<b>74</b>	<b>101</b>	<b>137</b>	<b>103</b>	<b>107</b>	<b>106</b>
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
<b>Total Switches</b>	<b>1,679</b>	<b>1,730</b>	<b>1,750</b>	<b>1,711</b>	<b>1,727</b>	<b>1,715</b>	<b>1,716</b>	<b>1,722</b>	<b>1,728</b>	<b>1,722</b>	<b>1,706</b>
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
<b>Total Number Access Lines in Service (000)</b>	<b>14,095</b>	<b>14,104</b>	<b>15,306</b>	<b>15,872</b>	<b>16,287</b>	<b>16,411</b>	<b>15,842</b>	<b>15,294</b>	<b>14,670</b>	<b>13,912</b>	<b>13,034</b>
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
<b>Total Switches Equipped w/SS7-394 (InterLATA) Svc.</b>	<b>1,466</b>	<b>1,597</b>	<b>1,724</b>	<b>1,707</b>	<b>1,724</b>	<b>1,713</b>	<b>1,713</b>	<b>1,722</b>	<b>1,728</b>	<b>1,722</b>	<b>1,706</b>
<b>Total Switches Equipped with ISDN</b>	<b>303</b>	<b>331</b>	<b>331</b>	<b>360</b>	<b>428</b>	<b>441</b>	<b>461</b>	<b>472</b>	<b>479</b>	<b>498</b>	<b>497</b>
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
<b>Total Switches</b>	<b>2,729</b>	<b>2,723</b>	<b>2,737</b>	<b>2,652</b>	<b>2,682</b>	<b>2,683</b>	<b>2,675</b>	<b>2,682</b>	<b>2,705</b>	<b>2,702</b>	<b>2,712</b>
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
<b>Total Number Access Lines in Service (000)</b>	<b>36,959</b>	<b>38,305</b>	<b>39,714</b>	<b>40,838</b>	<b>41,833</b>	<b>41,669</b>	<b>40,582</b>	<b>38,810</b>	<b>38,003</b>	<b>36,105</b>	<b>33,520</b>
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
<b>Total Switches Equipped w/SS7-394 (InterLATA) Svc.</b>	<b>2,577</b>	<b>2,650</b>	<b>2,707</b>	<b>2,641</b>	<b>2,671</b>	<b>2,672</b>	<b>2,664</b>	<b>2,682</b>	<b>2,704</b>	<b>2,700</b>	<b>2,706</b>
<b>Total Switches Equipped with ISDN</b>	<b>930</b>	<b>1,079</b>	<b>1,220</b>	<b>1,298</b>	<b>1,304</b>	<b>1,305</b>	<b>1,303</b>	<b>1,328</b>	<b>1,308</b>	<b>1,289</b>	<b>1,301</b>
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
<b>Total Switches</b>	<b>5,689</b>	<b>6,520</b>	<b>6,483</b>	<b>6,604</b>	<b>6,691</b>	<b>5,174</b>	<b>5,235</b>	<b>4,470</b>	<b>4,473</b>	<b>4,481</b>	<b>2,426</b>
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
<b>Total Number Access Lines in Service (000)</b>	<b>15,878</b>	<b>17,393</b>	<b>18,321</b>	<b>19,105</b>	<b>20,015</b>	<b>18,709</b>	<b>18,503</b>	<b>16,894</b>	<b>16,366</b>	<b>15,785</b>	<b>14,131</b>
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
<b>Total Switches Equipped w/SS7-394 (InterLATA) Svc.</b>	<b>2,782</b>	<b>3,897</b>	<b>4,215</b>	<b>5,527</b>	<b>6,309</b>	<b>5,021</b>	<b>5,156</b>	<b>4,429</b>	<b>4,464</b>	<b>4,472</b>	<b>2,426</b>
<b>Total Switches Equipped with ISDN</b>	<b>388</b>	<b>523</b>	<b>779</b>	<b>1,246</b>	<b>1,385</b>	<b>884</b>	<b>913</b>	<b>950</b>	<b>974</b>	<b>971</b>	<b>843</b>
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.

**Table 10.2**  
**Transmission System Data**  
**BellSouth Companies**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sheath Kilometers:											
Total Sheath Kilometers	1,020,809	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
Copper	937,626	943,090	951,758	965,108	973,995	983,221	989,541	992,446	994,980	1,000,413	1,003,470
Fiber	82,012	90,093	96,852	105,335	116,507	129,209	141,356	149,609	156,707	166,476	180,754
Other	1,171	1,418	1,576	4,453	4,067	3,466	3,466	3,452	3,457	3,462	3,462
Interoffice Working Facilities:											
Total Circuit Links	4,756,430	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
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	36,022,283	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
Copper	30,351,794	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
Fiber Digital Carrier	5,669,647	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
Other	842	842	842	842	934	1,406	2,096	1,145	0	0	0
Total Working Channels	24,682,894	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
Copper	19,871,262	20,318,019	20,708,890	21,233,672	21,237,643	20,311,329	19,664,164	17,250,216	16,854,022	14,456,834	13,286,993
Fiber Digital Carrier	4,811,550	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
Other	82	89	82	82	128	416	632	751	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	26,527,293	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
Fiber Strands Term in the CO (Loop Plant Only)	106,710	138,364	157,957	185,416	205,840	226,360	248,433	310,092	322,590	351,606	391,378
Fiber Term at Customer Premises DS1 Rate	19,132	27,482	36,911	50,431	67,886	85,205	93,687	593,755	448,233	474,787	514,177
Fiber Term at Customer Premises DS3 Rate & Higher	4,559	5,353	6,847	8,974	35,492	94,022	107,998	112,931	121,680	129,894	140,319
ISDN Capable Lines	NA	NA	NA	15,841,265	13,049,642	13,111,821	12,636,844	16,230,309	16,065,806	15,764,831	15,739,843

NA: Not available

Source: ARMIS Report 43-07.

**Table 10.2**  
**Transmission System Data**  
**Qwest Companies**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sheath Kilometers:											
Total Sheath Kilometers	753,942	722,753	717,084	722,157	735,920	754,162	762,412	770,660	779,623	789,965	798,298
Copper	691,844	660,393	653,205	650,929	662,816	675,009	676,615	684,193	690,414	698,213	704,670
Fiber	62,098	62,360	63,880	65,171	66,986	69,906	76,585	80,891	83,638	86,182	88,058
Other	0	0	0	6,057	6,119	9,247	9,212	5,576	5,570	5,570	5,570
Interoffice Working Facilities:											
Total Circuit Links	2,802,203	3,178,552	3,561,748	4,129,315	5,232,282	6,152,970	6,926,823	7,018,987	6,746,390	6,521,359	6,262,916
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	24,246,870	25,284,411	24,893,900	27,316,968	28,023,288	28,733,473	29,643,140	30,106,628	30,149,357	30,254,149	30,524,455
Copper	23,561,093	23,500,796	23,193,518	25,517,759	25,361,821	25,581,184	25,939,651	26,077,832	25,727,523	25,545,943	25,653,793
Fiber Digital Carrier	685,674	1,782,962	1,699,888	1,799,003	2,661,211	3,152,009	3,703,244	4,028,568	4,421,607	4,707,979	4,870,434
Other	103	653	494	206	256	280	245	228	227	227	228
Total Working Channels	15,347,150	16,359,345	17,195,446	17,455,809	18,011,061	18,009,155	17,058,921	16,260,389	15,607,156	15,038,312	14,301,144
Copper	14,873,448	15,232,212	16,113,600	16,222,185	16,270,241	15,887,131	14,607,962	14,400,788	13,625,667	12,996,038	12,302,313
Fiber Digital Carrier	473,650	1,126,650	1,081,695	1,233,523	1,740,715	2,121,920	2,450,864	1,859,511	1,981,407	2,042,191	1,998,745
Other	52	483	151	101	105	104	95	90	82	83	86
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	22,168,426	22,291,697	20,463,591	21,558,602	21,606,866	21,572,942	21,653,395	21,724,140	22,858,456	22,907,836	23,069,191
Fiber Strands Term in the CO (Loop Plant Only)	81,953	112,185	123,691	174,430	202,329	238,802	299,315	309,154	316,793	322,781	436,786
Fiber Term at Customer Premises DS1 Rate	28,875	30,109	46,296	91,105	136,878	267,251	316,665	349,948	370,416	0	0
Fiber Term at Customer Premises DS3 Rate & Higher	1,289	1,223	1,142	6,085	28,354	38,224	51,546	60,366	63,678	129,894	140,319
ISDN Capable Lines	NA	NA	NA	9,650,185	9,983,398	9,922,088	9,012,052	8,426,381	7,591,314	15,764,831	15,739,843

NA: Not available

Source: ARMIS Report 43-07.



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

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sheath Kilometers:											
Total Sheath Kilometers	562,934	575,407	586,712	598,858	601,779	612,988	629,321	636,725	642,674	652,181	657,922
Copper	519,775	526,955	533,491	541,197	540,170	546,336	555,024	558,670	562,163	570,185	573,316
Fiber	42,370	47,676	52,450	56,687	60,637	65,632	73,334	77,084	79,541	81,711	84,319
Other	789	776	771	974	972	1,020	964	971	970	286	286
Interoffice Working Facilities:											
Total Circuit Links	3,278,058	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
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	31,957,236	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
Copper	29,124,886	29,571,017	29,797,059	30,063,619	30,255,769	30,775,153	30,444,126	30,690,174	34,469,562	34,918,499	33,028,372
Fiber Digital Carrier	2,832,350	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
Other	0	0	0	0	0	0	0	0	0	0	0
Total Working Channels	19,714,345	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
Copper	18,478,770	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
Fiber Digital Carrier	1,235,575	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
Other	0	0	0	0	0	0	0	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	28,217,638	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
Fiber Strands Term in the CO (Loop Plant Only)	79,661	103,648	123,302	141,621	165,171	205,342	275,069	300,927	248,340	265,087	283,612
Fiber Term at Customer Premises DS1 Rate	31,941	39,124	46,366	53,506	62,090	78,822	106,984	118,927	318,417	345,032	384,053
Fiber Term at Customer Premises DS3 Rate & Higher	3,192	3,874	4,453	5,145	5,788	7,188	9,583	10,810	26,849	35,916	41,763
ISDN Capable Lines	NA	NA	NA	9,476,166	9,499,034	9,469,137	9,054,353	8,618,397	8,050,722	7,567,384	6,926,378

NA: Not available

Source: ARMIS Report 43-07.

**Table 10.2**  
**Transmission System Data**  
**AT&T Pacific Telesis Companies**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sheath Kilometers:											
Total Sheath Kilometers	346,127	349,697	363,726	368,122	363,304	386,093	394,058	382,326	394,103	410,545	415,309
Copper	325,537	327,040	339,207	341,563	334,493	355,133	359,288	343,317	352,331	365,700	367,675
Fiber	19,472	21,513	23,375	25,416	27,648	29,797	33,227	37,466	40,279	43,342	46,131
Other	1,118	1,144	1,144	1,144	1,163	1,163	1,543	1,543	1,493	1,503	1,503
Interoffice Working Facilities:											
Total Circuit Links	2,646,904	2,240,779	3,369,967	3,760,855	4,352,282	5,032,433	5,141,975	4,792,666	4,649,070	4,410,421	4,297,813
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	26,850,298	27,732,011	28,635,080	29,739,661	30,729,411	33,317,471	34,687,259	34,988,223	31,628,755	32,005,987	32,281,694
Copper	26,178,875	26,951,967	27,548,645	28,348,883	29,062,676	31,479,491	32,170,875	32,337,338	30,161,010	30,398,583	30,545,581
Fiber Digital Carrier	671,162	779,783	1,086,411	1,390,754	1,666,523	1,837,699	2,516,055	2,650,609	1,467,745	1,607,404	1,736,113
Other	261	261	24	24	212	281	329	276	0	0	0
Total Working Channels	16,877,850	17,719,765	18,254,128	20,103,518	20,963,786	23,081,376	22,773,561	22,080,915	17,868,331	17,311,070	16,684,641
Copper	16,448,199	17,212,991	17,569,012	19,235,044	19,936,233	21,930,468	21,380,638	20,803,417	17,070,393	16,430,928	15,733,399
Fiber Digital Carrier	429,536	506,657	685,092	868,450	1,027,425	1,150,752	1,392,728	1,277,338	797,938	880,142	951,242
Other	115	117	24	24	128	156	195	160	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	24,619,462	25,055,625	25,412,880	25,953,289	26,639,408	27,102,231	27,403,873	27,620,878	27,668,068	27,754,848	27,851,112
Fiber Strands Term in the CO (Loop Plant Only)	34,692	37,156	88,192	97,385	101,516	115,670	139,598	182,250	49,626	51,419	53,554
Fiber Term at Customer Premises DS1 Rate	655	719	762	854	894	0	0	0	244,193	265,797	293,775
Fiber Term at Customer Premises DS3 Rate & Higher	4,047	3,113	6,145	7,432	9,456	13,132	16,805	19,925	23,252	29,988	40,059
ISDN Capable Lines	NA	NA	NA	14,007,670	14,466,224	15,930,217	14,563,646	15,240,270	8,870,683	8,272,400	8,000,416

NA: Not available

Source: ARMIS Report 43-07.

**Table 10.2**  
**Transmission System Data**  
**AT&T Southern New England Tel.**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sheath Kilometers:											
Total Sheath Kilometers					74,926	78,301	78,634	79,230	77,061	77,869	78,719
Copper					67,136	68,830	68,582	68,786	66,119	66,717	67,166
Fiber					7,790	9,471	10,052	10,444	10,810	11,076	11,468
Other					0	0	0	0	132	76	85
Interoffice Working Facilities:											
Total Circuit Links					150,024	700,958	701,243	720,401	843,381	781,235	788,726
Loop Plant -- Central Office Terminations:											
Total Equipped Channels					4,363,664	4,303,654	4,719,268	4,627,977	4,747,002	4,841,846	4,879,686
Copper					3,915,948	3,810,896	3,991,935	4,018,081	4,009,459	4,042,100	4,059,897
Fiber Digital Carrier					447,716	492,758	727,333	609,896	737,543	799,746	819,789
Other					0	0	0	0	0	0	0
Total Working Channels					2,634,410	2,491,272	2,551,112	2,540,750	2,296,050	2,193,809	2,065,238
Copper					2,252,274	2,129,625	2,064,154	2,140,299	1,876,364	1,768,509	1,633,650
Fiber Digital Carrier					382,136	361,647	486,958	400,451	419,686	425,300	431,588
Other					0	0	0	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)					3,790,592	3,810,896	4,108,736	3,892,983	3,860,982	3,869,497	3,882,583
Fiber Strands Term in the CO (Loop Plant Only)					40,427	40,777	60,062	89,466	24,006	26,986	28,476
Fiber Term at Customer Premises DS1 Rate					0	0	0	67,790	33,818	31,586	34,120
Fiber Term at Customer Premises DS3 Rate & Higher					0	0	0	0	6,182	4,092	4,676
ISDN Capable Lines					250,896	317,994	384,431	398,824	1,049,395	990,236	915,442

NA: Not available

Source: ARMIS Report 43-07.

**Table 10.2**  
**Transmission System Data**  
**AT&T Southwestern Bell Companies**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sheath Kilometers:											
Total Sheath Kilometers	662,108	676,945	685,526	700,914	715,915	734,982	749,279	758,096	768,714	777,213	789,941
Copper	612,764	617,776	622,960	634,236	645,280	657,915	665,754	671,033	678,357	684,030	691,016
Fiber	47,530	57,228	60,561	66,074	70,023	76,442	82,893	86,431	89,725	92,549	98,293
Other	1,814	1,942	2,005	604	612	625	632	632	632	634	632
Interoffice Working Facilities:											
Total Circuit Links	2,583,685	2,887,611	3,374,225	4,013,947	5,040,973	5,747,378	6,133,750	6,011,924	6,248,497	6,238,881	6,079,908
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	23,990,229	23,765,557	26,003,155	26,573,984	27,781,986	28,466,090	33,579,340	35,090,790	30,806,704	31,676,407	32,267,999
Copper	23,356,682	22,976,132	24,957,200	25,399,685	26,437,109	27,047,348	30,533,897	31,634,863	26,115,730	26,629,079	27,047,559
Fiber Digital Carrier	633,547	789,425	1,045,955	1,174,299	1,344,877	1,418,742	3,045,443	3,455,927	4,690,974	5,047,328	5,220,440
Other	0	0	0	0	0	0	0	0	0	0	0
Total Working Channels	15,917,610	16,579,937	16,305,661	17,626,797	17,857,937	18,053,445	16,482,996	15,888,373	15,236,915	14,528,841	13,592,535
Copper	15,376,311	15,937,288	15,532,286	16,738,819	16,854,720	16,970,439	15,386,074	14,767,650	12,653,096	11,827,658	10,930,772
Fiber Digital Carrier	541,299	642,649	773,375	887,978	1,003,217	1,083,006	1,096,922	1,120,723	2,583,819	2,701,183	2,661,763
Other	0	0	0	0	0	0	0	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	21,990,829	22,185,268	22,926,817	22,904,300	23,579,244	24,032,521	24,062,333	24,290,865	24,407,172	24,749,958	24,958,917
Fiber Strands Term in the CO (Loop Plant Only)	124,026	189,365	193,409	206,178	158,881	256,736	329,584	388,011	161,950	172,172	183,440
Fiber Term at Customer Premises DS1 Rate	48,552	77,598	77,545	113,701	103,739	130,287	160,740	172,872	273,498	307,114	339,744
Fiber Term at Customer Premises DS3 Rate & Higher	2,733	4,365	5,039	5,615	1,995	3,668	4,523	4,828	20,354	26,529	33,048
ISDN Capable Lines	NA	NA	NA	4,157,674	12,158,269	12,168,819	12,055,812	11,177,094	4,981,445	4,680,190	4,351,990

NA: Not available

Source: ARMIS Report 43-07.

**Table 10.2**  
**Transmission System Data**  
**Verizon - Bell Atlantic Companies**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sheath Kilometers:											
Total Sheath Kilometers	973,148	979,664	992,970	1,008,405	1,022,395	1,038,094	1,046,999	1,080,551	1,088,452	1,095,801	1,119,400
Copper	872,797	871,984	873,583	876,739	879,768	886,323	886,147	912,134	914,932	917,525	918,542
Fiber	98,425	107,141	118,987	130,872	141,888	151,432	160,494	168,185	173,174	177,930	200,512
Other	1,927	539	401	794	739	339	357	232	346	346	346
Interoffice Working Facilities:											
Total Circuit Links	5,213,347	5,357,022	5,853,744	6,834,238	8,693,801	10,262,940	11,001,835	11,120,804	11,201,109	11,045,592	10,245,898
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	90,107,803	77,287,239	80,327,245	99,291,295	107,609,086	118,262,278	132,282,141	83,370,102	81,140,923	83,703,872	74,494,204
Copper	65,663,036	65,333,981	66,426,101	69,763,421	69,783,996	70,380,468	71,028,549	65,274,338	64,992,904	65,921,886	63,212,555
Fiber Digital Carrier	24,444,767	11,953,258	13,901,144	29,527,874	37,825,090	47,881,810	61,253,592	18,095,764	16,148,019	17,781,986	11,281,649
Other	0	0	0	0	0	0	0	0	0	0	0
Total Working Channels	43,690,966	45,428,073	48,600,177	66,109,986	74,269,449	84,300,998	97,520,356	44,619,456	40,052,063	38,588,203	34,792,533
Copper	37,927,283	37,998,341	39,429,529	41,983,369	43,003,921	43,790,217	43,770,856	34,803,810	32,820,501	31,437,854	28,203,411
Fiber Digital Carrier	5,763,683	7,429,732	9,170,648	24,126,617	31,265,528	40,510,781	53,749,500	9,815,646	7,231,562	7,150,349	6,589,122
Other	0	0	0	0	0	0	0	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	60,635,648	60,742,136	61,342,895	61,875,146	61,342,016	60,962,933	60,979,463	62,622,453	62,718,766	63,581,514	61,299,439
Fiber Strands Term in the CO (Loop Plant Only)	704,901	804,787	872,210	1,014,974	1,127,598	1,227,204	1,359,225	1,487,203	1,552,120	1,601,097	1,787,476
Fiber Term at Customer Premises DS1 Rate	78,266	103,307	131,829	192,129	246,434	314,204	612,368	21,723	21,693	22,149	231,749
Fiber Term at Customer Premises DS3 Rate & Higher	2,333	3,381	4,094	18,518	24,111	32,912	40,995	2,778	2,715	2,639	33,768
ISDN Capable Lines	NA	NA	NA	40,648,786	47,596,665	38,205,741	35,587,450	34,658,178	33,659,351	31,478,816	27,823,308

NA: Not available

Source: ARMIS Report 43-07.

**Table 10.2**  
**Transmission System Data**  
**Verizon - GTE Companies**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sheath Kilometers:											
Total Sheath Kilometers	1,127,943	1,248,505	1,268,110	1,290,068	1,312,437	1,041,353	1,053,450	938,012	946,019	967,564	942,888
Copper	1,065,667	1,177,702	1,188,835	1,203,101	1,219,257	959,596	965,586	856,090	859,017	863,698	840,527
Fiber	62,276	70,803	79,275	86,966	93,180	81,757	87,864	81,922	87,002	103,866	102,361
Other	0	0	0	0	0	0	0	0	0	0	0
Interoffice Working Facilities:											
Total Circuit Links	4,029,495	1,900,698	2,461,398	2,445,471	4,004,974	4,182,896	4,701,614	4,365,148	4,250,911	4,274,046	3,929,101
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	29,164,999	30,128,527	30,278,580	31,455,009	42,599,694	44,228,437	44,158,765	42,082,287	40,826,357	38,442,967	25,548,399
Copper	27,326,198	28,146,972	27,709,878	28,240,814	29,880,881	28,232,406	26,443,750	24,631,902	22,051,252	17,578,663	21,610,765
Fiber Digital Carrier	1,833,845	1,978,522	2,559,245	3,209,964	12,715,677	15,994,041	17,713,874	17,449,464	18,774,264	20,864,304	3,937,634
Other	4,956	3,033	9,457	4,231	3,136	1,990	1,141	921	841	0	0
Total Working Channels	18,918,578	20,422,201	20,654,471	21,925,330	23,991,380	24,233,066	23,715,390	21,729,366	20,343,905	17,876,878	15,528,244
Copper	17,675,242	18,981,609	18,850,077	19,726,313	18,207,964	17,826,786	17,365,904	15,789,637	14,213,787	11,181,622	12,903,375
Fiber Digital Carrier	1,240,728	1,438,571	1,801,556	2,196,916	5,536,831	6,405,057	6,348,889	5,939,291	6,129,678	6,695,256	2,624,870
Other	2,608	2,021	2,838	2,101	246,585	1,223	597	438	440	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	27,417,498	27,804,891	29,713,980	30,313,513	29,094,240	21,787,495	21,925,961	22,039,455	19,347,181	14,945,270	18,958,421
Fiber Strands Term in the CO (Loop Plant Only)	70,974	80,372	93,238	126,604	43,739	39,394	33,298	31,120	29,697	28,814	52,642
Fiber Term at Customer Premises DS1 Rate	11,488	16,469	23,480	4,846	11,316	289	214	172	169	173	5,979
Fiber Term at Customer Premises DS3 Rate & Higher	1,186	11,043	2,173	4,439	224	960	980	639	570	771	10,632
ISDN Capable Lines	NA	NA	NA	13,732,469	16,265,613	18,031,436	12,148,900	11,606,200	15,742,902	10,128,737	11,238,149

NA: Not available

Source: ARMIS Report 43-07.