

Table 1.1. Radio Paging Channel Capacity.						
Type of Service	1981			1988		
	Channels Available	Subscribers Per Channel	Total Capacity (units)	Channels Available	Subscribers Per Channel	Total Capacity (units)
Tone	27	100,000	2,700,000	120	100,000	12,000,000
Tone and Voice	27	1,500	40,500	120	1,500	180,000
Tone and Alphanumeric Display	27	NA	NA	120	50,000	6,000,000

Source: Bean, *Paging Outlook 1995*, TELOCATOR, Jan. 1989, at 23.

Paging services are provided by many different companies. By late 1990, an estimated 1,000 U.S. pager services were in operation.<sup>15</sup> As one pair of commentators noted, the paging industry is marked by "hundreds of small operators with less than 1,000 pagers in service and hundreds more mid-sized operators with a few thousand pagers in service."<sup>16</sup> But the industry has also "attracted some large, well-financed participants from outside the field, who have entered via major acquisitions. These entrants have come from the broadcast and cable television fields (Metromedia and Cox Communications), \* \* \* the long distance business, and the venture capital sector (Golda Thoma of Chicago \* \* \*)."<sup>17</sup> Only one company serves more than 10 percent of paging subscribers, and nearly half are served by companies with market shares too small to tabulate. Telocator predicts that growth will remain "healthy for [both] large nationwide carriers and small localized operations."<sup>18</sup>

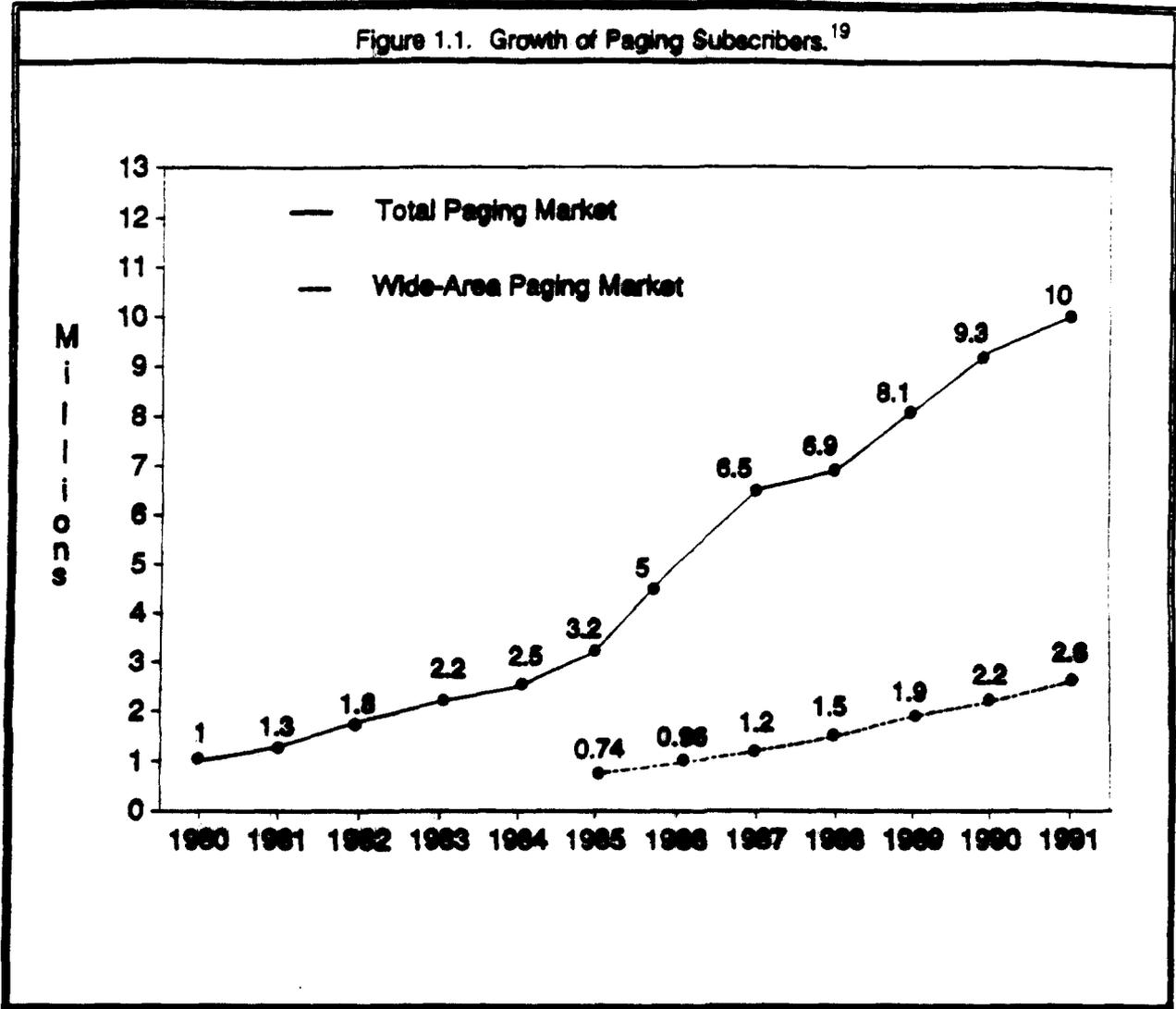
<sup>15</sup> Richards, *Pager Companies Count on Masses to Answer Call of Cheaper Fees*, USA TODAY, Sept. 1990, at 6B.

<sup>16</sup> Roscoe & Wyszor, *Survey Shows Strong Growth in Paging Industry*, TELOCATOR, June 1990, at 15

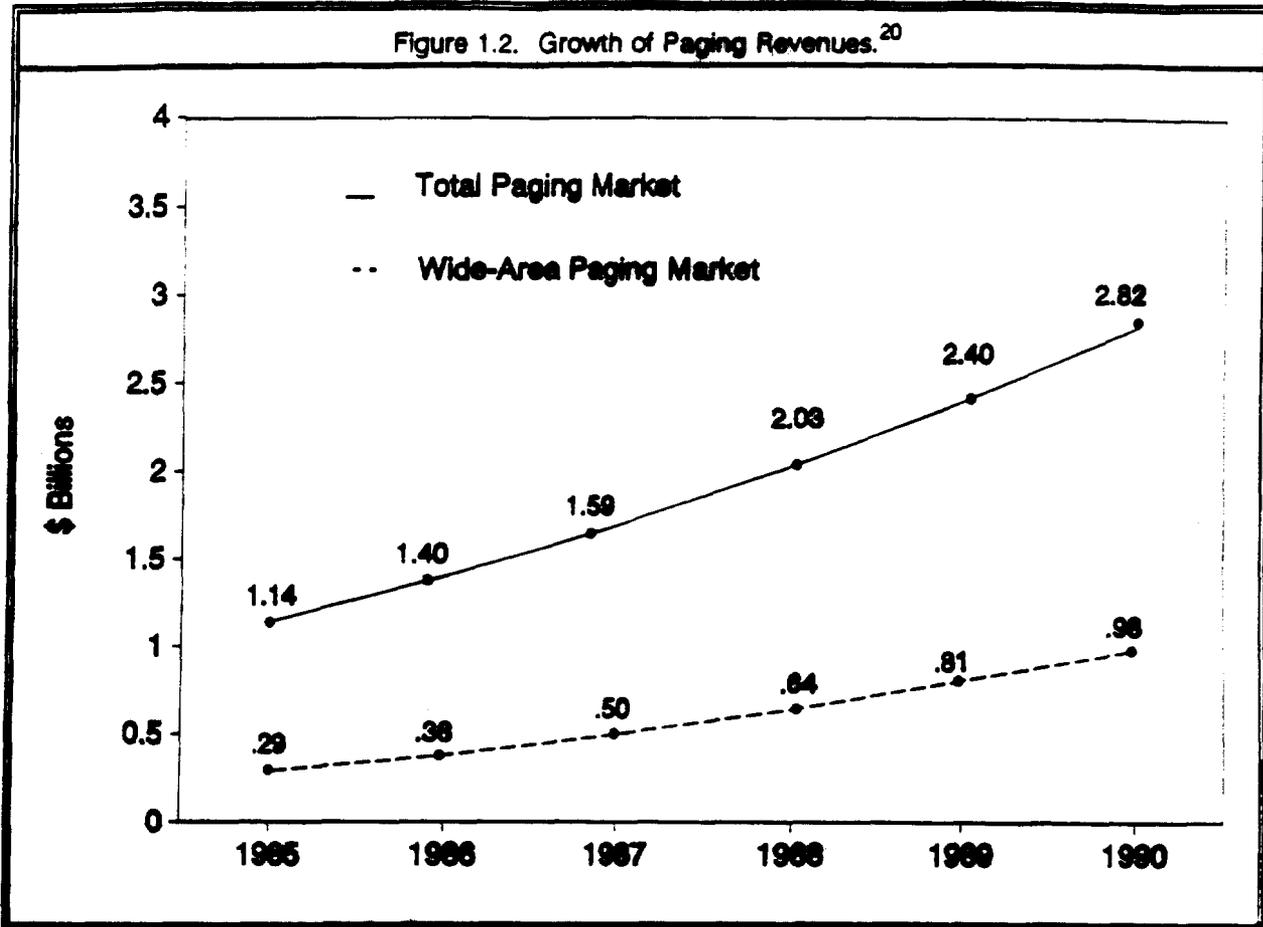
<sup>17</sup> Bean, *Paging Outlook 1995*, TELOCATOR, Jan. 1989, at 28. There has been some consolidation in the industry; as one observer noted in 1989, "[t]he industry has evolved from small independent 'mom and pop' companies (hundreds still exist profitably) to large megacompanies serving hundreds of thousands of users." Kirvan, *Radio Paging Still Hot: An Old Familiar Way to Keep in Touch Has Gotten Even Better*, ELECTRONIC MESSAGING, Aug. 1989, at 34.

<sup>18</sup> Roscoe & Wyszor, *Survey Shows Strong Growth in Paging Industry*, TELOCATOR, June 1990, at 14

Figure 1.1. Growth of Paging Subscribers.<sup>19</sup>



<sup>19</sup> Sources: ENCI, THE STATE OF THE U.S. PAGING INDUSTRY - SUBSCRIBER GROWTH, END-USER, AND CARRIER TRENDS: 1990, at 32-33 (1990 total paging market figures); Reese & Weyer, Survey Shows Strong Growth in Paging Industry, TELECOM, June 1990, at 14 (same); Stan, Paging Outlook 1995, TELECOM, Jan. 1995 at 20 (same); MIRC, MOBILE COMMUNICATIONS SERVICES, at VI-21 (1990) (wide-area paging market data subscriber figures were not available for pre-1995). The wide-area paging market makes up from 16% in 1995 to 24% (projected 1990) of the total number of subscribers in the one-way paging market. See also at VI-9; Paging Industry Breaks 10 Million Subscriber Mark, PR NEWswire, May 12, 1991 (1991 total paging market figure).



New companies continue to enter and succeed in the market. SkyTel's Skypager service, for example, was first offered in 1987; by late 1990 it had 84,300 users in the United States<sup>21</sup> and continues to add 4,000 to 5,000 subscribers a month.<sup>22</sup> Today, Skypager is the largest nationwide service, and was the first nationwide network currently operating on a single frequency.<sup>23</sup> SkyTel has also been in the forefront of efforts to

<sup>20</sup>Source: MIRC, MOBILE COMMUNICATIONS SERVICES, at VI-2, VI-21 (1990) (data for 1988 and 1990 are estimates). The wide-area paging market makes up from 25% (in 1985) to 35% (projected 1990) of total one-way paging revenues. See *id.* at VI-8.

<sup>21</sup>Abrahms, *Mid-Atlantic Paging Stretches Network From Virginia to Boston*, WASHINGTON BUS. J. Sect. 17, 1990, § 1, at 23; Richards, *Pager Companies Count on Masses to Answer Call of Cheaper Fees*, USA TODAY, Sept. 5, 1990, at 6B; ROBINSON-HUMPHREY CO., REPORT ON MTEL (July 30, 1990); MTEL Users in Service Exceed 125,000 at Year End; 78 Percent Increase Over 1989 Level, PR NEWSWIRE, Jan. 10, 1991.

<sup>22</sup>Titch, *Nationwide Paging Companies Undaunted by Metrocast Folding*, TELEPHONY, July 16, 1990 at 8.

<sup>23</sup>*Ibid.*; ROBINSON-HUMPHREY CO., REPORT ON MTEL (July 30, 1990).

build an international paging network. By mid-1990, SkyTel's customers could be reached in over 100 U.S. cities and in Puerto Rico, the Virgin Islands, and Singapore.<sup>24</sup>

Table 1.2. Wide-area One-way Paging Services Market: Subscriber and Revenue Forecasts			
Year	Subscribers (000)	Revenues (\$ million)	Revenue Growth Rate (%)
1985	738.0	285.3	-
1986	957.2	381.2	33.6
1987	1,224.3	501.2	31.5
1988	1,530.4	642.8	28.3
1989	1,875.7	806.7	25.5
1990	2,215.4	976.6	21.1
1991	2,600.3	1,177.2	20.5
1992	3,023.2	1,407.0	19.5
1993	3,482.0	1,685.9	18.4
1994	3,969.2	1,952.2	17.2
1995	4,477.9	2,264.1	16.0

Source: MIRC, MOBILE COMMUNICATIONS SERVICES, at VI-21 (1990). The wide-area paging market makes up from 16% (in 1985) to 26% (projected 1995) of the total number of subscribers in the one-way paging market, and from 25% to 40% of total one-way paging revenues. See *id.* at VI-8 to VI-9.

In July 1982, MCI formed a partnership with the American Express Co., Metromedia Inc., and Communications Industries, Inc. to apply for one of the national paging licenses.<sup>25</sup> The partnership planned to use MCI's long distance telephone network of over 200 metropolitan areas to achieve a nationwide reach.<sup>26</sup> The partnership was unsuccessful in its license application, and in 1986 MCI sold its paging and

<sup>24</sup>Titch, *Nationwide Paging Companies Undaunted by Metrocast Folding*, TELEPHONY, July 16, 1990, at 8.

<sup>25</sup>*Four Firms Announce Venture for Nationwide Paging System*, ASSOCIATED PRESS, July 28, 1982.

<sup>26</sup>*Ibid.*

cellular businesses to McCaw.<sup>27</sup> John Houser, an MCI spokesman, explained that MCI wanted out of the paging business because "it's cutthroat and difficult to make a profit." He observed that as many as 50 different companies might sell paging services in a given market.<sup>28</sup>

While telcos have been and remain important players in the paging market, they are by no means dominant. In 1968, 11 of the top 40 cities were served by telcos, while 36 of the top 40 were served by other paging companies. Of the 170 stations licensed nationwide, 25 were operated by Bell company affiliates, 9 by affiliates of independent telcos, and 136 by unaffiliated companies.<sup>29</sup> Today, the largest provider of paging services is not affiliated with a telco, and the industry as a whole remains highly fragmented. TABLE 1.3. According to a report by Telocator in 1989, "[r]adio common carriers collectively serve[] about 60 percent of the paging market. Private systems (e.g., hospitals, hotels) serve[] another 15 percent; telephone companies only 25 percent of the business."<sup>30</sup> Some RHCs have bought up independents -- in September 1990, for example, US West purchased Answer Iowa;<sup>31</sup> more recently, BellSouth has acquired the paging interests of Graphic Scanning Corp. and CellTelCo.<sup>32</sup> But in late 1990, NYNEX took the opposite tack and sold its entire paging business to an independent company, Page America.<sup>33</sup>

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<sup>27</sup>*Buyouts Shuffle 1985 Media Rankings, Part 1*, ADVERTISING AGE, June 30, 1986, at S-4. McCaw is the fifth largest paging company in the country with over 300,000 subscribers. *RCR Top-20 Radio Common Carriers*, RCR PUBLICATIONS, INC., Oct. 21, 1991. It has paging coverage in most of its cellular phone markets, as well as national paging services and voice messaging. See, e.g., *McCaw Sales Brochure & Coverage Map for Visalia, CA* (current as of Feb. 1991) (brochure entitled *For Companies on the Move*).

<sup>28</sup>Tucker, *MCI Sells Cellular Radio Units*, WASHINGTON POST, Aug. 13, 1985, at E1. More recently, MCI announced its sale of two non-wireline RSAs (acquired through its 1990 purchase of Telecom USA) to Sterling Cellular. *Acquisition Spotlight: ALLTEL Scores in Missouri*, CELLULAR INVESTOR, Mar. 25, 1991, at 8.

<sup>29</sup>14 F.C.C.2d at 271.

<sup>30</sup>Bean, *Paging Outlook 1986*, TELOCATOR, Jan. 1989, at 20. Today, telephone companies have just under 30 percent of the paging business.

<sup>31</sup>Richards, *Pager Companies Count on Masses to Answer Call of Cheaper Fees*, USA TODAY, Sept. 5, 1990, at 6B.

<sup>32</sup>BellSouth, *Graphic Scanning Complete Merger*, PR NEWSWIRE, Sept. 17, 1991; BellSouth, *McCaw Complete Cellular Transaction*, PR NEWSWIRE, Sept. 23, 1991; *Subsidiary Buys Paging License, Assets of CellTelCo*, WALL ST. J., Apr. 3, 1991, at C6, col. 4; *BellSouth Enterprises Buys Graphic Scanning Corp.*, MOBILE PHONE NEWS, Jan. 17, 1991, at 6.

<sup>33</sup>Feldman, *Beeper Company Sends Stronger Signal*, CRAN'S N.Y. BUS., Aug. 6, 1990, at 3. In a recent rulemaking, the Commission altered these rules somewhat, holding that no person may "have a direct or indirect ownership interest in licenses for both frequency blocks in overlapping CGSs unless such interests pose no substantial threat to competition." First Report and Order and Memorandum Opinion and Order on Reconsideration, CC Dkt. Nos. 90-6 and 85-388, at 44 (Oct. 18, 1991). The Commission noted that a

Table 1.3. Market Share of Paging Subscribers. <sup>34</sup>	
Company	Market Share <sup>35</sup>
Paging Network	12.0
BellSouth	9.4
Southwestern Bell	9.1
Pacific Paging	5.5
McCaw	3.3
American Paging	2.4
Ameritech Mobile Communications	2.3
Page America	2.2
USA Mobile Communications	2.1
Metrocall	2.0
US WEST Paging	2.0
RAM Communications	1.8
Dialpage	1.8
Pronet	1.1
MTel/SkyTel	.9
Others	42.0
<b>Total Subscribers</b>	<b>10.0 M</b>

### Cellular Telephony

The single-cell transmitters that provided mobile telephony until the 1980s could typically support a total of 25 channels.<sup>36</sup> Because of interference between channels, only about half of those could be used at a time. Since thirty subscribers might be

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controlling interest in both licenses would be anticompetitive and therefore forbidden, but stated that "for less than controlling interests or interests less than 50% in both frequency blocks an analysis will have to be made on a case by case basis in accordance with traditional antitrust principles." *Ibid.*

<sup>34</sup>Subscriber figures are primarily based on data from *RCR Top-20 Radio Common Carriers*, RCR PUBLICATIONS, INC., Oct. 21, 1991 and the following sources: *BellSouth, Graphic Scanning Complete Merger*, PR Newswire, Sept. 17, 1991; *BellSouth Enterprises' Mobilecomm Closes Nationwide Paging Deal with CellTelCo*, PR Newswire, Apr. 2, 1991; *Bell South Reports Third Quarter Results*, PR Newswire, Oct. 17, 1991; *Paging Legislation Presents Survey Results*, PR Newswire, Aug. 8, 1991; *American Paging Gold Pages Everywhere in Florida*, PR Newswire, Oct. 4, 1991; *Pronet Announces Third Quarter and Nine Months Results*, BUSINESS WIRE, Oct. 24, 1991; *Paging Industry Breaks 10 Million Subscriber Mark*, PR Newswire, May 12, 1991; *Ameritech Appoints New President/CEO for its U.S. Alphanumeric Paging Subsidiary*, BUSINESS WIRE, Aug. 21, 1991; *Pronet Inc. Announces Second Quarter and Six Month Results*, BUSINESS WIRE, July 25, 1991; *U.S. WEST Paging Names Clint Scott Chief Operating Officer*, PR Newswire, July 12, 1991; *US WEST Announces Second Quarter Earnings*, BUSINESS WIRE, July 19, 1991; *BellSouth Announces Second Quarter Earnings*, PR Newswire, July 18, 1991; *Telephone and Data Systems Reports First-Quarter 1991 Results*, PR Newswire, May 6, 1991; *MTel Reports First Quarter Results*, PR Newswire, May 1, 1991.

<sup>35</sup>Total percentage is less than 100 percent due to rounding.

<sup>36</sup>AT&T Consumer Products Supplies Buick with Mobile, PR Newswire, Sept. 13, 1983.

licensed for every channel, calls often could not be completed. Of 23 channels supporting 700 users in New York City, for example, only 12 could be used simultaneously.<sup>37</sup> The available spectrum supported only 140,000 subscribers nationwide, including police and other special users.<sup>38</sup> Demand far exceeded supply. By 1976, Bell mobile service in the New York metropolitan area served 543 customers and had a waiting list of 3,700.<sup>39</sup> Would-be subscribers often waited six years or more for service.<sup>40</sup>

In 1982, when the Bell System divestiture was proposed, cellular telephone service was still not a market reality. Just five years earlier, the FCC had granted Illinois Bell's application to construct a developmental cellular system in Chicago.<sup>41</sup> The FCC awarded a second developmental license to American Radio Telephone Service (a subsidiary of Motorola) in 1977 to operate in the Washington, D.C.-Baltimore area.<sup>42</sup> But the FCC did not finalize its guidelines for cellular service until March 1982, three months after the Department of Justice and AT&T announced their divestiture agreement. In 1982, AT&T estimated that by 1990 the cellular market would be serving 1.5 million customers.<sup>43</sup> The actual number turned out to be more than three times that estimate.<sup>44</sup>

In 1984, when divestiture actually occurred, the cellular telephone market was in its infancy. Only 32 systems had been licensed; they served some 92,000 customers. Even as of November 1985, almost two years after divestiture, there were no more than 200,000 cellular subscribers nationwide.<sup>45</sup> The average LATA, by contrast, served about 500,000 landline subscribers.

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<sup>37</sup>Godin, *The Cellular Telephone Goes On Line*, ELECTRONICS, Sept. 22, 1983, at 121.

<sup>38</sup>*Ibid.*

<sup>39</sup>G. CALHOUN, *supra*, at 31.

<sup>40</sup>Meyer, *Walkie Talkie Telephoning*, WASHINGTON POST, June 6, 1982, at K1.

<sup>41</sup>Application of Illinois Bell Tel. Co., 63 F.C.C.2d 665 (1977), *aff'd sub nom. Rogers Radio Communication Services, Inc. v. FCC*, 583 F.2d 1225 (D.C. Cir. 1978). Two years later the FCC expressly authorized Illinois Bell to offer commercial cellular service to the public. *Telelocator Network of America v. Illinois Bell Tel. Co.*, 70 F.C.C.2d 713, 716-717 (1979).

<sup>42</sup>American Radio Tel. Serv. Inc., 66 F.C.C.2d 481 (1977). The FCC apparently did not issue any other developmental licenses. See McGuigan, Connors & Cannon, *Cellular Mobile Radio Telecommunications: Regulating an Emerging Industry*, 1983 B.Y.U. L. Rev. 306, 314 n.42 (citing *Inquiry Into the Use of Certain Frequency Bands for Cellular Communications Sys.*, 46 Fed. Reg. 27,655, 27,656 & n.8 (1981)).

<sup>43</sup>Hardin, *Cellular Mobile Phone Fight Starts*, ELECTRONICS, Jan. 13, 1982, at 97.

<sup>44</sup>CTIA, STATE OF THE CELLULAR INDUSTRY 4 (Spring 1990).

<sup>45</sup>See *United States v. Western Elec. Co.*, 1986-1 Trade Cas. (CCH) ¶ 66,987, at 62,055, 62,057 (D.D.C. 1986).

The cellular industry reached the million-customer mark in 1987,<sup>46</sup> and it has grown dramatically since. By June 1991, there were over 6.3 million cellular subscribers in the United States, almost a million of which had first subscribed in the first six months of 1990.<sup>47</sup> More new customers subscribed to cellular service in the second half of 1990 than in any prior six-month period.<sup>48</sup> TABLE 1.4, FIGURE 1.3. During this same period, the price of cellular telephones has dropped seven-fold; the inflation-adjusted price of equipment and service combined has dropped by more than 50 percent, according to estimates prepared by the Eastern Research Corporation.<sup>49</sup> According to the 1991 U.S. *Industrial Outlook*, "[t]he cost of local cellular service declined 6 percent in 1990," while the average length of a call remained about the same (2.3 minutes).<sup>50</sup> FIGURE 1.4.

Table 1.4. Growth of the Cellular Industry.								
	1984	1985	1986	1987	1988	1989	1990	1991
Subscribers (thousands)	92	340	682	1,231	2,069	3,509	5,283	6,380
Systems	32	102	168	312	517	584	715	1,025
Cell Sites	346	913	1,531	2,305	3,299	4,169	5,616	6,685
Revenue (\$ millions)	178	482	823	1,152	1,980	3,341	4,550	5,126*

Sources: CTIA, STATE OF THE CELLULAR INDUSTRY 4-5 (Spring 1990); CTIA, DATA SURVEY THROUGH DECEMBER 1990, at 1 (1991) (1990 data); *Cellular Phone Industry Sets Growth Record for 1990*, CHICAGO TRIBUNE, Mar. 18, 1991, at 4 (1990 revenue figure). CTIA, DATA SURVEY THROUGH JUNE 1991 (Sept. 9, 1991).

\* Estimated revenue projection based on figures through second quarter 1991.

This rapid growth in use and steady reduction in price seen from the perspective of the consumer of cellular service has been matched (and of course driven by) robust competition among producers. Telco affiliates have again proved to be important -- but not overwhelming -- forces in the market.

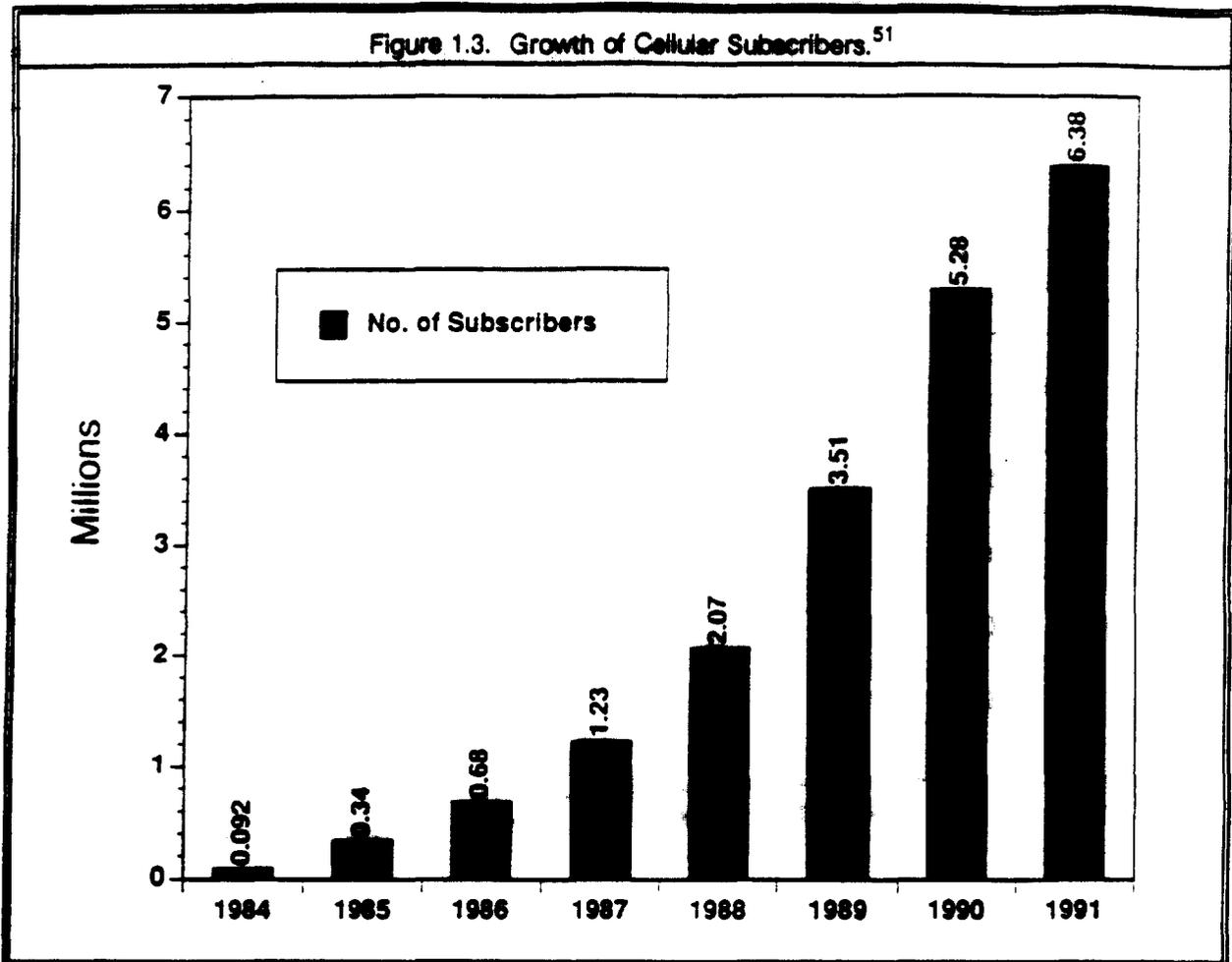
<sup>46</sup>*Busy Signal a Welcome Sign in Cellular Telephone Industry*, CHICAGO TRIBUNE, Oct. 18, 1987, at 10C

<sup>47</sup>CTIA, DATA SURVEY THROUGH JUNE 1991 (Sept. 9, 1991).

<sup>48</sup>CTIA's Survey Shows 1990 was Best Year Yet for Cellular, MOBILE PHONE NEWS, Mar. 26, 1991, at 5

<sup>49</sup>EASTERN RESEARCH CORP., CELLULAR TELEPHONES: THE NEXT FIVE YEARS 27 (1989) (Table showing "full effective costs of cellular service adjusted for inflation." Note, however, that percentages in last column of table fail to sufficiently adjust for inflation, utilizing a less than 50% adjustment between 1983 and 1989.)

<sup>50</sup>U.S. DEP'T OF COMMERCE, 1991 U.S. INDUSTRIAL OUTLOOK 31-8 (1991).

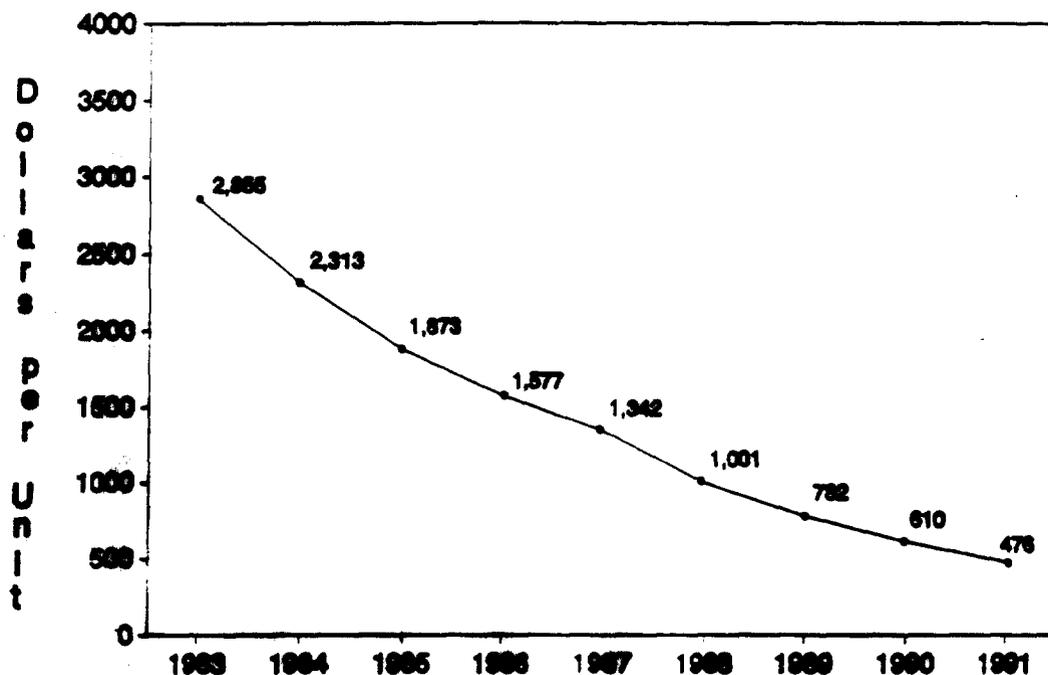


In the FCC's first-round allocation of cellular licenses (covering the first 30 metropolitan areas), the Bell System was party to a nationwide settlement among 23 telcos competing for licenses on the wireline side.<sup>52</sup> The Bell companies ended up with licenses in rough proportion to their share of the landline market. GTE, Contel, Centel,

<sup>51</sup>Source: CTIA, DATA SURVEY THROUGH DECEMBER 1990, at 1 (1991); figures for second quarter 1991, CTIA DATA SURVEY THROUGH JUNE 1991 (Sept. 9, 1991).

<sup>52</sup>*PacTel-Mobile-Access; Cellular Agreements Announced in Three California Markets*, BUSINESS WIRE, Feb. 16, 1984. In areas served by more than one landline phone company, the FCC encouraged the companies to negotiate joint arrangements that would allow for equitable sharing of the cellular systems. The negotiations were generally successful. For example, AT&T agreed to give Centel a 7 percent share of AT&T's Chicago license, a split that roughly approximated the two companies' shares of the local landline market. See *FCC Grants AT&T Permit for Cellular Mobile Telephone*, ASSOCIATED PRESS, Oct. 21, 1982. AT&T and GTE likewise agreed that AT&T would hold a majority interest in twenty-three wireline licenses, while GTE would exercise a similar degree of control in the remaining seven. *Mobile Phone Pact is Studied*, N.Y. TIMES, July 8, 1982; Godin, *The Cellular Telephone Goes On Line*, ELECTRONICS, Sept. 22, 1983, at 121.

Figure 1.4. Prices of Mobile Cellular Telephones.<sup>53</sup>



and the other independent telephone companies received interests in licenses in similar proportion.<sup>54</sup> On the non-wireline side, the first round of FCC licensing drew applications from scores of companies, including McCaw Communications, MCI, The Washington Post, Graphic Scanning, General Electric, McClatchy Publishing (*The Sacramento Bee*), A.S. Abell Co. (*The Baltimore Sun*),<sup>55</sup> Metromedia,<sup>56</sup> Western Union, and

<sup>53</sup>Prices reflect average midpoint price; figures for 1989-1991 are estimates; article does not note whether figures are adjusted for inflation. Takahashi, *PacTel Cellular Takes A Gamble on Technology*, L.A. TIMES, Aug. 26, 1989, at D1, col. 5. See also Mason, *Travel Talk: Cellular Market Expands as Prices Fall and Consumer Awareness Grows*, INDIANAPOLIS BUS. J., Nov. 14, 1988, § 2, at 1B (in 1988, department stores such as Luskir's sold cellular phones for as low as \$199); Simross, *The Phone Options for People on the Go*, L.A. TIMES, May 1, 1991, § E, at 5, col. 1 (today, some cellular phones sell for about \$100).

<sup>54</sup>Mayer, *Walkie Talkie Telephoning*, WASHINGTON POST, June 6, 1982, at K1.

<sup>55</sup>Mayer, *Cellular Phone Service Seen as Gold Mine*, WASHINGTON POST, Nov. 21, 1982, at H1.

<sup>56</sup>*Metromedia Gets Nod for Mobile Phone and Paging Purchases*, UNITED PRESS INT'L, Nov. 5, 1982.

American Television and Communications Corp. (Time Inc.'s cable subsidiary).<sup>57</sup> Other media companies have since acquired cellular licenses.<sup>58</sup>

In later licensing rounds, the competition was even more intense. The FCC was flooded with non-wireline applications in the RSA lottery process. Compared to applications on the wireline side, "non-telephone firms had applications several multiples larger. It was not uncommon for the FCC lottery to receive from 600 to 1000 applications from non-telephone company firms."<sup>59</sup> One telephone company official noted that with the number of non-wireline applications, "the problems [for the FCC] went up exponentially."<sup>60</sup> Despite the FCC's continuing policy of allocating one license to a wireline affiliate in every service area, unaffiliated bidders remained extremely willing to compete.

Although telco affiliates often received their FCC licenses first, and thus benefitted from a short headstart in the competitive race that followed, that initial edge has since been completely erased. From the start, the FCC required that lagging non-wireline carriers be permitted to resell the cellular services of telco affiliates as their own; this allowed competitors to sign up customers from the very beginning, even without facilities to support them.<sup>61</sup>

Today, McCaw Cellular is, by almost any measure, the largest cellular telephone company in the United States, and indeed in the world. GTE/Contel ranks second. McCaw and GTE both overshadow even the largest Bell company affiliate, and they are first and second in terms of subscribers served, markets owned, total POPs, and cellular

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<sup>57</sup>Mayer, *Cellular Phone Service Seen as Gold Mine*, WASHINGTON POST, Nov. 21, 1982, at H1.

<sup>58</sup>In March 1990, for example, Time Warner purchased 25 percent equity in a joint venture with Price Communications to own and operate cellular systems. At its inception, the jointly owned company, Pricellular, controlled three licenses serving 430,000 potential subscribers. In April, the company purchased 70% of another wireline license, in the Utica market. Time Warner has an option to increase its ownership of Pricellular to 50 percent. See COMMUNICATIONS DAILY, Mar. 7, 1990, at 7; MOBILE PHONE NEWS, Apr. 12, 1990, at 7.

<sup>59</sup>Desloge, *Cellular Fight Goes Along the Highways and Byways*, ST. LOUIS BUS. J., Oct. 29, 1990, § 2 at 88.

<sup>60</sup>*ibid.*

<sup>61</sup>An Inquiry Into the Use of Bands 825-845 MHz & 870-890 MHz for Cellular Communications Systems, 6 F.C.C.2d 469, 511 (1991). The FCC has consistently imposed a reselling requirement that all cellular providers and non-affiliated resellers must receive system capacity on a non-discriminatory basis and on the same terms and conditions as the affiliated cellular provider. *ibid.* Recently, the FCC has reconsidered its position on reselling but only in regard to its requirement that facilities-based providers resell to their facilities-based competitors. The FCC tentatively concluded that "[h]aving developed rules and policies to protect and stimulate the duopoly market structure \* \* \* resale restrictions with respect to a fully operational competitor should not harm competition." The FCC went even further and noted that "cooperative ventures between the only two facilities based carriers for the resale of each other's cellular service might create the potential for collusion in the areas to be served by the two carriers." 6 FCC Rcd 1719, 1721 (Mar. 27, 1991).

revenues.<sup>62</sup> McCaw and GTE/Contel also lead the pack in the number of cities they serve. TABLE 1.5, FIGURE 1.5. Even a smaller non-RHC company such as Centel has cellular operations comparable in scope to those of the smaller RHCs. The independents, taken together, serve almost half of U.S. cellular subscribers.

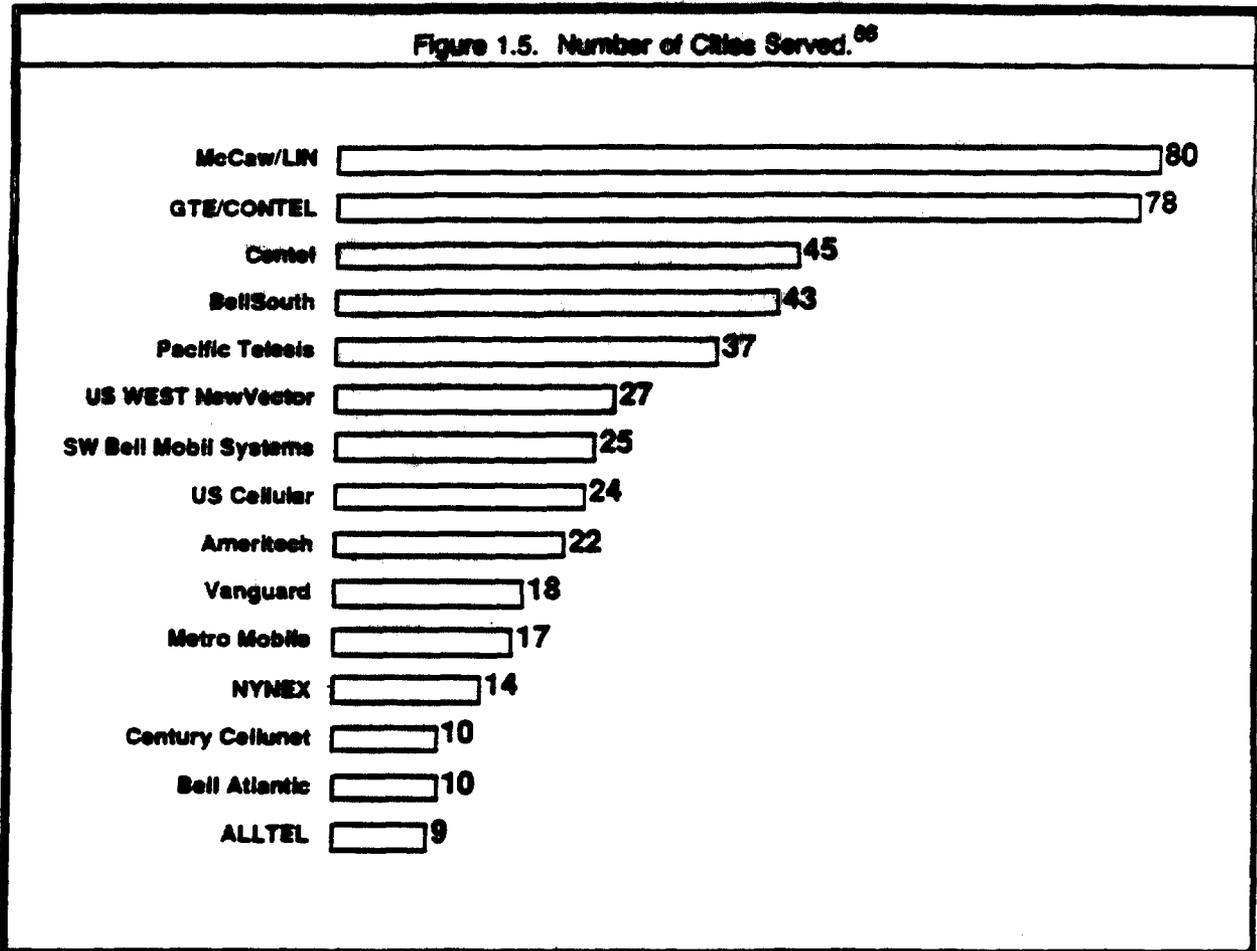
Table 1.5. 1991 Cellular Market.				
	Top 90 Markets (%)	Population Served (%)	Subscribers (%)	Revenues* (%)
McCaw/LIN	13.3	12.2	19.9	18.2**
GTE/Contel	14.4	16.8	14.1	N/A
Southwestern Bell	6.6	6.8	12.9	N/A
BellSouth	8.3	7.0	12.8	14.4**
Pacific Telesis	6.6	6.1	9.4	13.0**
Ameritech	4.4	4.6	6.5	N/A
NYNEX	5.5	4.6	4.6	6.9**
Bell Atlantic	3.3	3.7	4.6	N/A
US West	5.5	3.9	3.9	4.3
Centel	5.5	3.3	3.5	3.5
Metro Mobile CTS	6.6	2.3	2.9	2.8
US Cellular	1.1	1.7	1.4	1.2
Vanguard	1.8	1.1	1.0	1.2
ALLTEL	.5	1.3	.9	.9
SNET	2.2	.8	.8	N/A
Other	14.4	30.1	1.1	N/A
<b>Totals</b>	<b>180</b>	<b>506.4 M</b>	<b>6.2 M</b>	<b>4.55 B</b>

Sources: PALL KAGAN ASSOCS., 1991 CELLULAR TELEPHONE ATLAS (Feb. 1991); PHILLIPS PUBLISHING, INC., 1991 MOBILE COMMUNICATIONS DIRECTORY (1991) (because there are two licenses in each of the top 90 MSAs, a total figure of 180 was used in the "Top 90 Markets" column; any mergers or acquisitions not reported in the preceding sources are not reflected in the table above); Cellular Phone Industry Sets Growth Record for 1990, CHICAGO TRIBUNE, Mar. 18, 1991, at 4. Actual subscriber and revenue figures were taken from company annual reports, where available, and from the following sources: Holiday Gift-Giving Boosts Cellular Industry, CELLULAR INVESTOR, Mar. 25, 1991, at 6; BellSouth Reports 1990 Results, PR NEWSWIRE, Jan. 28, 1991; US West NewVector Group Reports Revenue of \$273.9 Million for 1990, PR NEWSWIRE, Jan. 24, 1991; United States Cellular 1990 Revenues Increase 67 Percent and Net Loss Decreases 20 Percent, PR NEWSWIRE, Feb. 20, 1991; CTIA. STATE OF THE CELLULAR INDUSTRY 9-23 (1991); CELLULAR TELEPHONE - INDUSTRY REPORT (Sept. 30 1991).

\* Revenue figures for 1990.  
 \*\* Estimate; figure may include equipment as well as service revenues.

<sup>62</sup>GTE-Contel Merger Creates USA's Second-largest Cellular Operator, FINTECH MOBILE COMMUNICATIONS, July 19, 1990.

McCaw/LIN. McCaw's rise to a preeminent position demonstrates how dynamic and competitive the industry has been. Prior to the introduction of cellular, McCaw was primarily a small, family-controlled cable company with properties in the Pacific Northwest.<sup>63</sup> In 1981, the company entered an agreement with Affiliated Publications, Inc., parent company of the *Boston Globe* and owner of ten radio stations.<sup>64</sup> Affiliated took 45 percent of McCaw's stock; voting control was retained by the McCaw family.<sup>65</sup> This arrangement provided McCaw with the cash it needed to pursue its cellular venture.



<sup>63</sup>See *Publisher Purchases Stock of McCaw*, N.Y. TIMES, June 6, 1981, at 31.

<sup>64</sup>*Globe Parent Company Extending Bid for Mobile Phone Franchises*, ASSOCIATED PRESS, Nov. 10, 1982

<sup>65</sup>*Publisher Purchases Stock of McCaw*, N.Y. TIMES, June 6, 1981, at 31.

<sup>66</sup>Source: FCC, STATUS OF MSA CELLULAR MARKETS (May 13, 1991); PAUL KAHAN ASSOC., 1991 CELLULAR TELEPHONE ATLAS (Feb. 1991). Figures include MSAs controlled or managed by the companies. *PacTel and McCaw Propose to Form Cellular Clusters Through Joint Venture*, BUSINESS WIRE, Aug. 29, 1991.

McCaw was an early bidder for cellular licenses; it had received three by late 1984. Its subscriber base and revenues have grown dramatically, both through expansion and acquisition, ever since. TABLE 1.6. In 1986, McCaw purchased the cellular and paging operations of MCI.<sup>67</sup> In January 1987, McCaw sold its cable operations to Jack Kent Cooke for \$755-800 million. By that time it was the 22nd largest cable operator with 42 systems serving 433,000 subscribers.<sup>68</sup> In July of 1987, McCaw purchased the *Washington Post's* cellular operation in Florida.<sup>69</sup> In August, McCaw Cellular went public in an offering that raised \$2.4 billion of fresh capital for the company.<sup>70</sup> By the end of November 1987, McCaw was the largest cellular telephone operator in the country with 132,000 customers.<sup>71</sup> Since that time, McCaw's ownership and financing has continued to shift. In May 1989, Affiliated spun off its interest in McCaw to its stockholders and severed all formal ties.<sup>72</sup> In June, British Telecom (the fifth largest telco in the world with 23 million access lines and \$18.7 billion in revenues in 1988)<sup>73</sup> paid \$1.37 billion for a 20 percent stake in McCaw.<sup>74</sup>

McCaw's recent purchase of LIN Broadcasting vividly illustrates how an independent player in this market has competed, grown, and thrived in direct competition with telco affiliates. LIN had moved into the cellular business in much the same way as McCaw -- by backing out of other communications operations, in LIN's case AM and FM radio stations, TV stations, and paging.<sup>75</sup> LIN then acquired extensive interests in cellular systems in New York, Dallas-Fort Worth, Houston, and Philadelphia, and a 35 percent stake in a system in Los Angeles.<sup>76</sup> By the end of 1987, LIN had interests in cellular

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<sup>67</sup>*MCI to Sell Mobile-Phone Unit to McCaw*, WASHINGTON POST, Jan. 14, 1986, at D6.

<sup>68</sup>*Jack Kent Cooke Buys McCaw Cable*, BROADCASTING, Jan. 5, 1987, at 68.

<sup>69</sup>*Company News; Cellular Phone Pact*, N.Y. TIMES, July 7, 1987, § D, at 5, col. 6. The deal was finalized in January 1988. See, e.g., MCCAW CELLULAR COMMUNICATIONS, INC., 1989 ANNUAL REPORT 27 (1990).

<sup>70</sup>*Cellular One Gearing Up With McCaw at Its Side*, S. FLA. BUS. J., Oct. 12, 1980, at 17. Despite the public offering, the McCaw family retained control of the company.

<sup>71</sup>*NOMURA Preparing to Plug Into McCaw Cellular*, PORTFOLIO LETTER, Jan. 11, 1988, at 3.

<sup>72</sup>*Perry, Companies to Watch; Life Without McCaw*, FORTUNE, Aug. 14, 1989, at 75.

<sup>73</sup>*McDonnell Douglas Sold to British Telecom*, THE NILSON REPORT, Aug. 1989, at 1; W. DAMSON, A COMPARATIVE ASSESSMENT OF NATIONAL PUBLIC TELECOMMUNICATIONS INFRASTRUCTURES, at Appendix B, Tables E & G (Apr. 9, 1989).

<sup>74</sup>*British Telecom USA Buys 20% of McCaw*, JAPAN ECON. J., July 8, 1989, at A3.

<sup>75</sup>*LIN Broadcasting Puts Radio Stations on Block*, CHICAGO TRIBUNE, Sept. 24, 1988, at 6. In 1988, LIN sold its paging systems to NYNEX. *Ibid.* That same year it also sold its ten radio stations saying that the stations "were no longer significant enough to provide for appreciation in the price of LIN stock." Gelland, *Wall Street Answers LIN's Car-Phone Call*, ELECTRONIC MEDIA, Feb. 8, 1988, at 44.

<sup>76</sup>*LIN Broadcasting Corporation Reports*, PR NEWSWIRE, Apr. 16, 1987.

operations serving over 130,000 customers;<sup>77</sup> that total had risen to 203,000 by September 1988.<sup>78</sup>

Table 1.6. Growth of McCaw Cellular Communications, Inc.							
	1984	1985	1986	1987	1988	1989	1990
CGSA	3	9	21	37	80	94	108
Subscribers	N/A	N/A	N/A	135,000	227,800	386,000	849,240
Total Revenues (\$ millions)	8.2	29.3	68.7	196.4	310.8	504.1	1,037.5
Sources: <i>Holiday Gift-Giving Boosts Cellular Industry</i> , CELLULAR INVESTOR, Mar. 25, 1991, at 6 (1990 subscriber figure includes LIN's subscribers); MCCAW CELLULAR COMMUNICATIONS, INC., 1990 ANNUAL REPORT 13 (1991); MCCAW CELLULAR COMMUNICATIONS, INC., 1988 ANNUAL REPORT 1 (1989); FCC, STATUS OF MSA CELLULAR MARKETS (May 13, 1991); PAUL KAGAN ASSOCS., 1991 CELLULAR TELEPHONE ATLAS (Feb. 1991); PHILLIPS PUBLISHING, INC., 1991 MOBILE COMMUNICATIONS DIRECTORY (1991).							
Notes: The CGSA figures include MSAs and RSAs in which McCaw is known to have a limited interest or an option to purchase an interest. The 13 service areas sold to Contel in 1990 and the areas pending transfer to BellSouth in 1991 are not included in figures.							

When LIN went up for sale, McCaw outbid BellSouth using a creative combination of finance sources, including sale of a major block of stock to British Telecom.<sup>79</sup> The LIN acquisition gave McCaw control of systems in four of the top 30 MSAs and an interest in three more, as well as providing the jewels needed to complete regional clusters. As of May 1990, McCaw had franchises in sixteen of the top thirty MSAs.<sup>80</sup> According to a July 1990 estimate, McCaw holds the licenses for territories serving 60 million people.<sup>81</sup> MAP 1.1.

<sup>77</sup>LIN Broadcasting Corporation Reports Third Quarter Income, PR NEWswire, Oct. 15, 1987.

<sup>78</sup>LIN Broadcasting Corporation Reports Third Quarter Record, PR NEWswire, Oct. 17, 1988.

<sup>79</sup>McCaw raised \$1.3B by selling some of its cellular properties in the Southeast to Contel, another \$1.3B through sale of stock to BT, and another \$3B from a consortium of banks in the United States, Canada, and Finland. See *When the Smoke Clears: McCaw Stock Will Pay Off, Says Firm*, INDUSTRIAL COMMUNICATIONS, Aug. 3, 1990, at 4; *McCaw Cellular, Banks Execute Agreement*, REUTERS, Mar. 2, 1990. In addition, McCaw gave \$425 million of Class A common stock to LIN for distribution to LIN shareholders as a one-time dividend in lieu of LIN shares not purchased. *McCaw Completes LIN Acquisition*, UNITED PRESS INT'L, Mar. 5, 1990.

<sup>80</sup>BT Billion On Line in US Phone Hang-ups, INDEPENDENT, May 6, 1990, at 6.

<sup>81</sup>GTE-Contel Merger Creates USA's Second-Largest Cellular Operator, FINTECH MOBILE COMMUNICATIONS, July 19, 1990. McCaw's 1990 annual report claims that 100 million people, or 44 percent of the U.S. population, live in areas served by McCaw/LIN. MCCAW CELLULAR COMMUNICATIONS, INC., 1990 ANNUAL REPORT 3 (1991).

GTE/Contel. Although a comparatively small independent telephone company,<sup>82</sup> Contel has been a major competitive force in the cellular industry. In 1984, Contel received FCC licenses to operate 5 systems as the majority partner, and also obtained a minority interest in 3 of the top 15 metropolitan service areas. Thereafter, Contel aggressively pursued other service areas through both the FCC licensing process and acquisition.<sup>83</sup> As discussed in the following chapter, Contel was among the first to develop "super-systems" by consolidating licenses into large service areas.<sup>84</sup> By late 1990, Contel had been tentatively selected to participate (with either a majority or minority interest) in 117 (27 percent) of all rural service areas.<sup>85</sup> Soon thereafter Contel was providing service in at least 35 of these areas as the managing partner.<sup>86</sup> In addition to its interest in 67 metropolitan service areas, by mid-1991 Contel was operating as managing partner in 60 rural service areas.<sup>87</sup> MAP 1.2.

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<sup>82</sup>In 1989 Contel had \$3.1B in sales, primarily from its telephone operations in 30 states serving nearly 2.6 million access lines. CONTEL, 1989 ANNUAL REPORT 5, 10, 28 (1990).

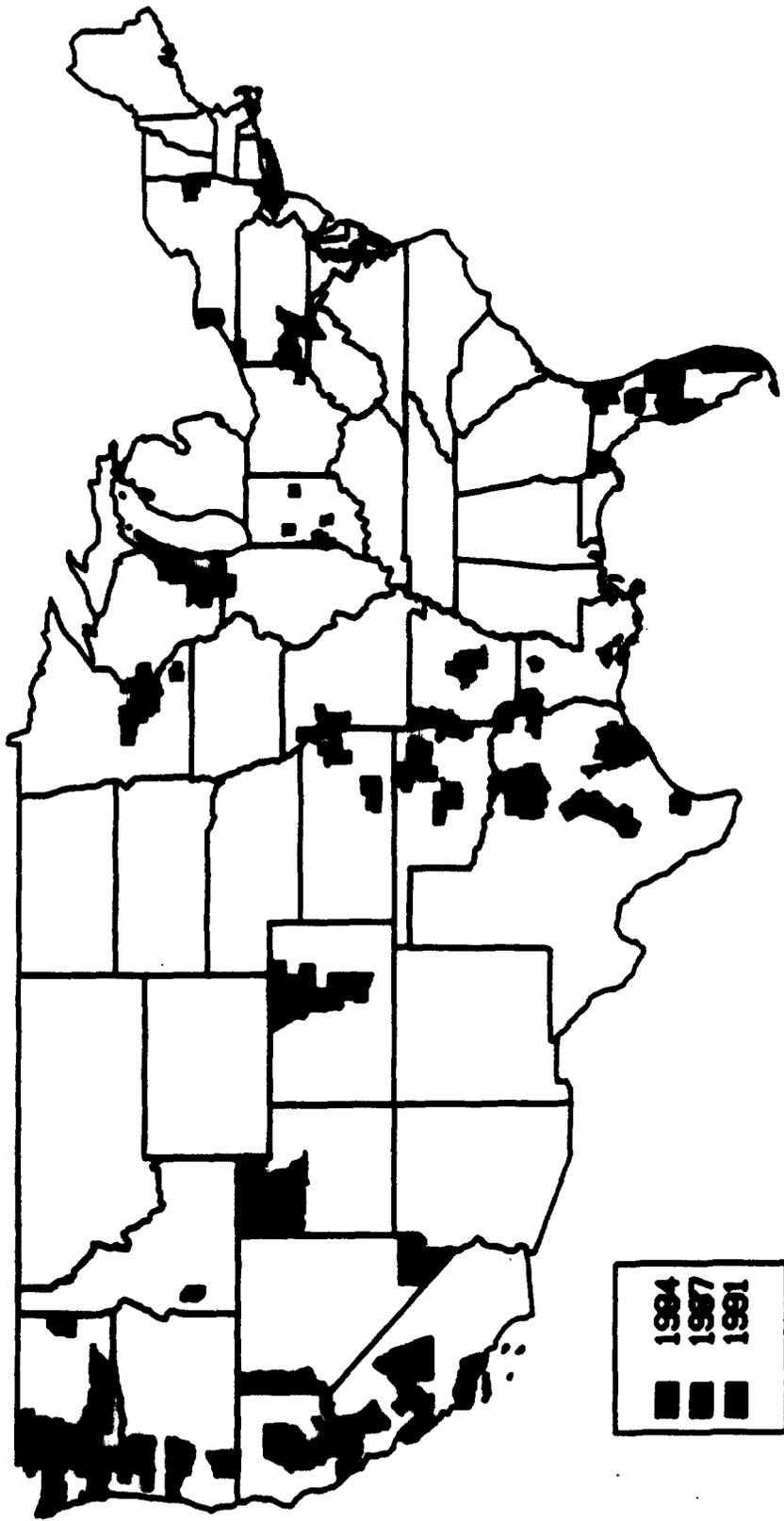
<sup>83</sup>Four of these systems in which Contel was the managing partner -- El Paso, Richmond, Norfolk, and Mobile -- became operative in 1985, and the fifth, Fresno, began offering service in April 1986. Contel was also involved as a limited partner in eight additional systems which began service in 1985. CONTEL, 1984 ANNUAL REPORT 11 (1985); CTIA, STATE OF THE CELLULAR INDUSTRY (Spring 1980). In addition to Fresno, Contel's Newport News system came on line in 1986. CONTEL, 1986 ANNUAL REPORT 10 (1987). By 1987, Contel had opened an additional 6 systems in which it had a controlling interest (Rockford, Evansville, Deavenport, Petersburg, Bakersfield, and Visalia), and held limited interests in 10 additional operating systems. CONTEL, 1987 ANNUAL REPORT 11-12 (1988); CTIA, STATE OF THE CELLULAR INDUSTRY (Spring 1980). In 1988, Contel acquired Southland Mobilcom's interests in cellular licenses in Mobile and Pensacola. *Contel Cellular Completes Acquisition of Southland Mobilcom*, PR NEWswire, May 31, 1988. In 1990, Contel purchased thirteen southern properties in Alabama, Kentucky, and Tennessee from McCaw Cellular. *Contel Moves Up Cellular Ladder with Acquisition of McCaw Units*, TELEPHONY, Mar. 5, 1990, at 10.

<sup>84</sup>*Contel Cellular Inaugurates Service in Pensacola*, PR NEWswire, Nov. 14, 1988.

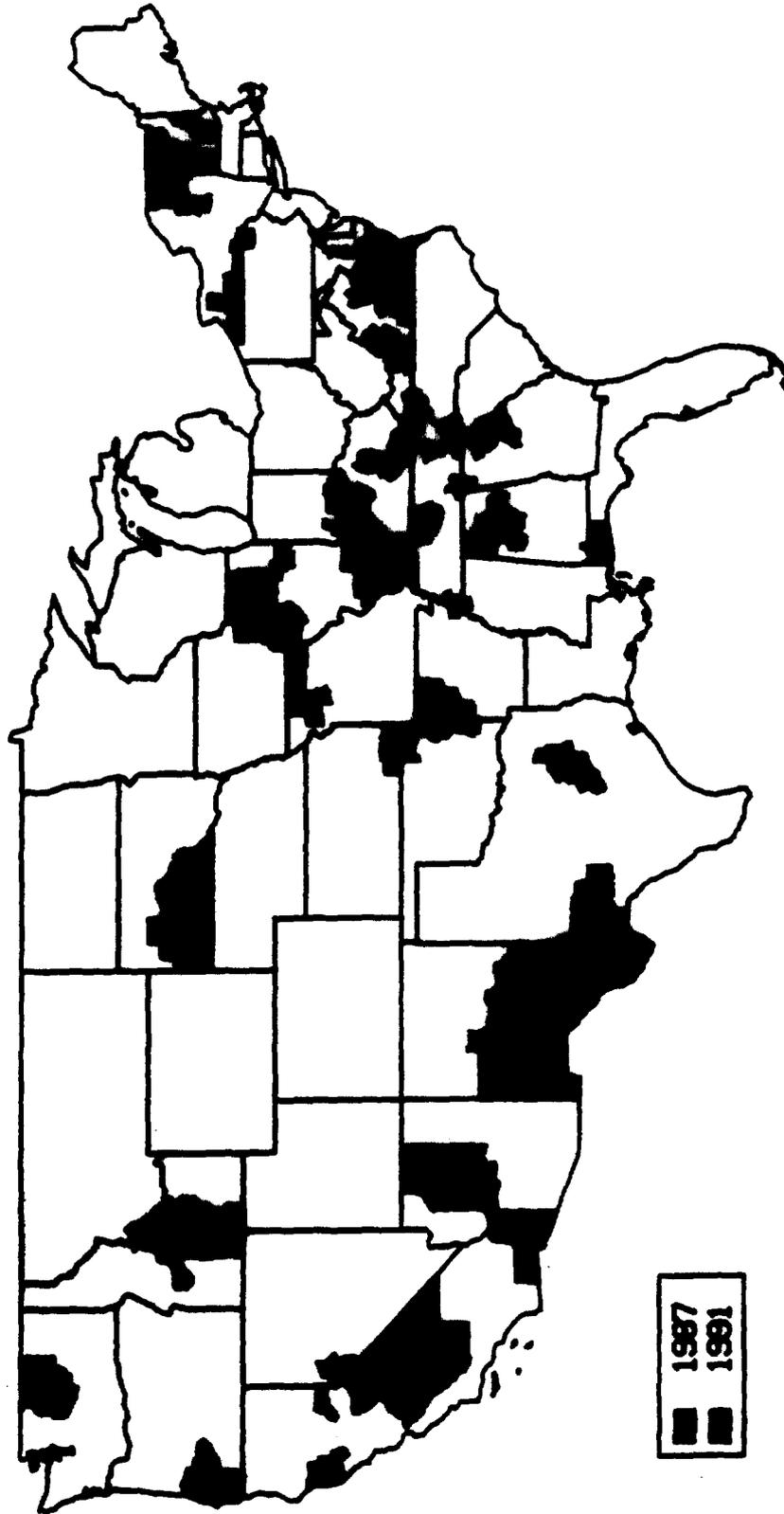
<sup>85</sup>*Contel Cellular Reports Third Quarter 1990 Financial Results*, PR NEWswire, Oct. 25, 1990. As part of the settlement process between competing providers, the FCC partitioned the B Block of numerous RSAs resulting in several wireline providers in a single service area.

<sup>86</sup>FCC, STATUS OF RSA CELLULAR MARKETS (Jan. 24, 1991); RSA files viewed at the FCC, 1919 M Street, N.W., Room 628, Washington, D.C. 20006, Mar.-Apr. 1991. In 1988, Contel received tentative FCC approval to participate in all nine California rural service areas for which it applied, and by late 1990, Contel was in fact operating in five of them. CONTEL, 1988 ANNUAL REPORT 14 (1989); CTIA, STATE OF THE CELLULAR INDUSTRY 53 (Spring 1990).

<sup>87</sup>CTIA, STATE OF THE CELLULAR INDUSTRY 16 (1991); CONTEL, 1991 ANNUAL REPORT 1, 13-14 (1990).



Map 1.1. Development of McCaw's Cellular Coverage.



Map 1.2. Development of Contel's Cellular Coverage.

GTE, a much larger telco, developed its cellular operations in parallel with Contel's. As early as 1983, before the FCC had issued any cellular licenses, GTE proclaimed its intent to "become[] a major provider of the new 'cellular' mobile radio telephone service."<sup>88</sup> Seven of the first 30 wireline construction permits granted by the FCC went to GTE<sup>89</sup> -- more licenses than any of the RHCs received at divestiture. GTE also obtained a minority interest in 5 of the 23 systems in which the Bell System had majority control.<sup>90</sup> By 1984, GTE had activated its first four systems and filed applications for licenses in 17 additional MSAs.<sup>91</sup> In October 1990, it acquired the cellular holdings of the Providence Journal, which gave it majority control of twelve properties.<sup>92</sup> Prior to the acquisition, GTE was providing cellular service in 34 metropolitan and nine rural areas.<sup>93</sup> Between 1989 and 1990, GTE more than doubled the number of potential customers in its mobile service territories.<sup>94</sup>

In 1990, GTE agreed to absorb Contel. Before the merger, GTE and Contel individually ranked sixth and eleventh in terms of the number of potential cellular subscribers in the areas they served.<sup>95</sup> After the merger, which was completed on March 13, 1991,<sup>96</sup> the expanded GTE ranked second only to McCaw. See TABLE 1.5, *supra*. The

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<sup>88</sup>GTE, 1982 ANNUAL REPORT 3 (1983). "The corporation's cellular service subsidiary, GTE Moblinet, plans to operate cellular systems in seven of the 30 largest U.S. metropolitan areas and to serve as a minority partner in another five of those areas." GTE also applied for licenses in 10 "somewhat smaller but important cities." *Ibid*.

<sup>89</sup>FCC Issues Four New Construction Permits, ASSOCIATED PRESS, Aug. 26, 1983. These areas included: San Francisco (MSA #7), Houston (#10), Cleveland (#16), Tampa (#22), San Jose (#27), Indianapolis (#28), and Portland (#30).

<sup>90</sup>The five systems were in Atlanta, Dallas, Detroit, Los Angeles, and Seattle.

<sup>91</sup>GTE, 1984 ANNUAL REPORT 13 (1985). In 1985, with 9 systems on line, GTE was facing capacity problems due to increasing demand, particularly in its Texas and California properties. To handle demand, the Houston system nearly tripled its number of cells, thereby doubling its coverage area to 4,200 square miles. In California, GTE took to operating its San Francisco and San Jose systems as a single unit in order "to meet growth needs" in the area, and it doubled the number of cells there as well. GTE, 1985 ANNUAL REPORT 20 (1986).

<sup>92</sup>GTE Mobile Communications Completes Acquisition of Providence Journal Cellular Properties, PR NEWSWIRE, Oct. 4, 1990 (GTE acquired eight of the twelve properties in October; the remaining properties were still pending approval at that time); Grebler, GTE Cellular Unit Buys Properties in South at 'Bargain' Price, REUTERS BUS. REPORT, Apr. 20, 1990.

<sup>93</sup>GTE Mobile Communications Completes Acquisition of Providence Journal Cellular Properties, PR NEWSWIRE, Oct. 4, 1990.

<sup>94</sup>The New GTE: Country's Second National Cellular Network, CELLULAR INVESTOR, Mar. 25, 1991, at 4.

<sup>95</sup>CTIA, STATE OF THE CELLULAR INDUSTRY 19 (Spring 1990).

<sup>96</sup>The New GTE: Country's Second National Cellular Network, CELLULAR INVESTOR, Mar. 25, 1991, at 4.

combined cellular businesses of GTE and Contel will serve areas with a total population of 50 million.<sup>97</sup> The parent company formed by the GTE/Contel merger is itself the largest local phone company in the U.S., serving 18.4 million access lines worldwide.<sup>98</sup> MAP 1.3.

**RHC Affiliates.** The RHC affiliates' role in the market for cellular service has been the subject of considerable regulatory and antitrust confusion. After a short initial period of doubt immediately after the Bell System divestiture was announced, it was agreed that cellular operations would go to the RHCs rather than to AT&T.<sup>99</sup>

The next question, which took longer to resolve, was just where the RHC affiliates would be permitted to offer cellular services. The FCC had in effect at that time a policy that telcos were not allowed to bid for non-wireline licenses outside of their own, landline service areas.<sup>100</sup> But the FCC did not bar telcos from acquiring away-from-home cellular licenses from others.<sup>101</sup> In January 1988, however, the decree court ruled that the RHCs did not have authority to provide two-way mobile telephone and one-way paging services outside of their geographic regions, absent a waiver. The court concluded that these services were "exchange telecommunications services" under the consent decree and that the decree implicitly prohibits the RHCs from providing exchange services outside of their geographic regions.<sup>102</sup> The Court of Appeals disagreed.<sup>103</sup> It noted that no explicit or implicit geographic restrictions were imposed by the consent decree,

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<sup>97</sup>Brown, *GTE/Contel Merger Shifts Power Balance; Companies Agree to Unite in Move That Would Create Largest Local Telco, Cellular Powerhouse*, NETWORK WORLD, July 16, 1980, at 1.

<sup>98</sup>*The New GTE: Country's Second National Cellular Network*, CELLULAR INVESTOR, Mar. 25, 1991, at 4. GTE has telephone operations in 30 states, Canada, and the Dominican Republic. It had sales of \$17.4 billion in 1989. Contel generated \$3.1 billion in sales in 1989. *Status of Subsidiaries Unclear; GTE and Contel to Merge in \$6.2-Billion Deal*, COMMUNICATIONS DAILY, July 13, 1988, at 3. By comparison, BellSouth Corp., the largest of the RHCs, served 17 million access lines and generated \$14.2 billion in revenues in 1989. BILLSOUTH CORP., 1989 ANNUAL REPORT 28 (1990); Brown, *GTE/Contel Merger Shifts Power Balance. Companies Agree to Unite in Move That Would Create Largest Local Telco, Cellular Powerhouse*, NETWORK WORLD, July 16, 1980, at 1.

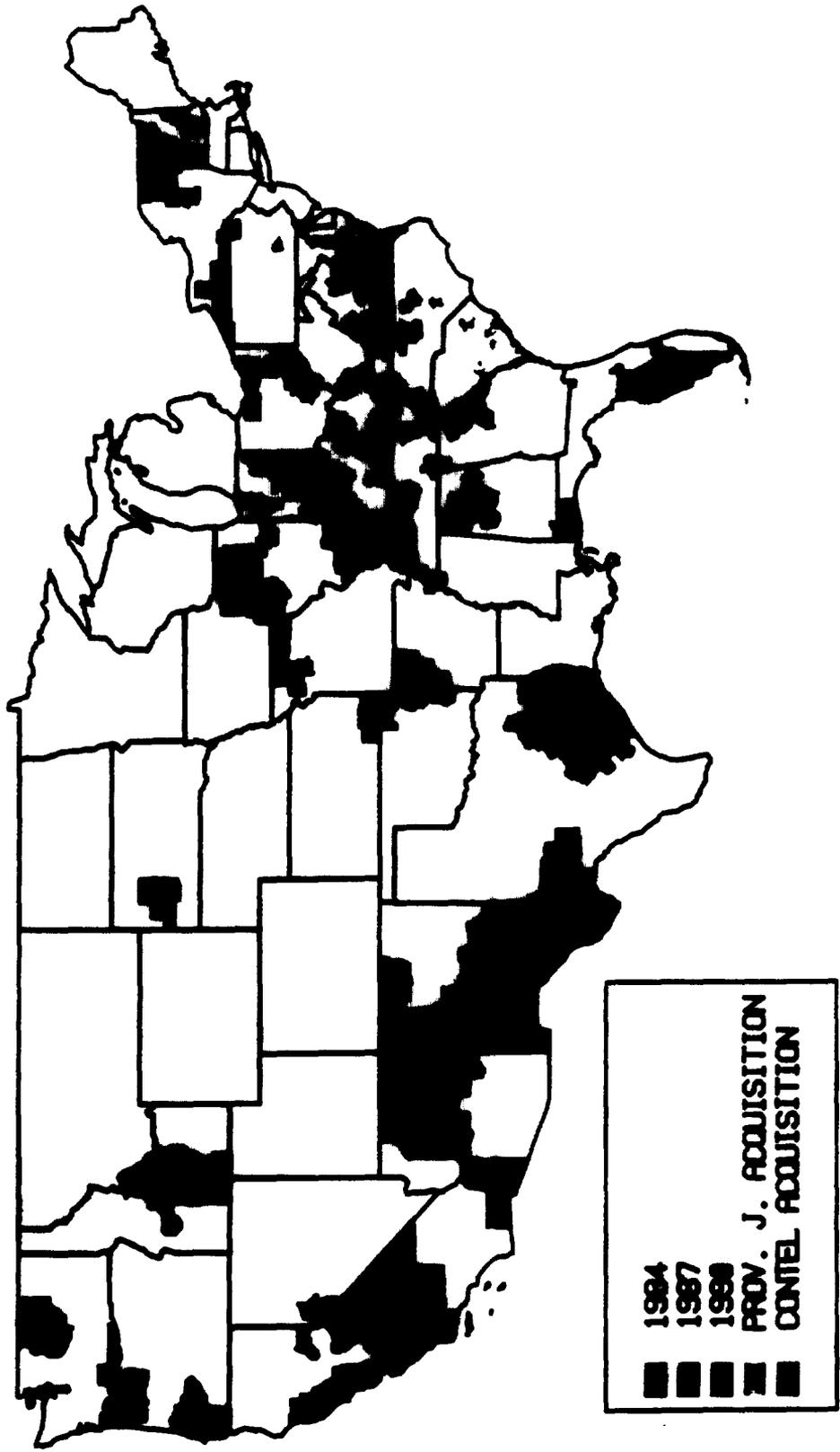
<sup>99</sup>When the CEO of AT&T addressed a press conference upon the announcement of the divestiture agreement, he was (according to one witness's recollection) unable to answer a reporter who asked which part of the Bell System would keep the infant cellular businesses. The issue had scarcely been addressed in the negotiations leading up to divestiture.

<sup>100</sup>*Applications of Advanced Mobile Phone Serv., Inc., Contel Mobilcom, Inc., & GTE Mobilnet of Los Angeles, Inc.*, 93 F.C.C.2d 680, 682 (1983).

<sup>101</sup>See, e.g., *In re Applications of James F. Rill Trustee for Comet Inc. & Pacific Teleasis Group*, 60 Rad. Reg. 2d (P & F) 583, 591 (May 27, 1986).

<sup>102</sup>*United States v. Western Elec. Co.*, 627 F. Supp. 1080 (D.D.C. 1986). The court did, however, proceed to grant several such waivers.

<sup>103</sup>*United States v. Western Elec. Co.*, 797 F.2d 1082 (D.C. Cir. 1986).



Map 1.3. Development of GTE's Cellular Coverage.

and thus concluded that "neither the express language of the consent decree nor the circumstances of its formation \* \* \* support the territorial restrictions imposed on exchange services by the district court."<sup>104</sup>

Now that the confusion has subsided, individual RHCs have developed their cellular interests very differently. Some have vigorously sought to acquire additional licenses from the FCC or through acquisitions in and out of region. Others operate primarily within their own regions. **MAPS 1.4(A)-(G)**.

PacTel, for example, led the Bell companies in moving out of region in 1986 when it received permission from the decree court to acquire Dallas-based Communications Industries.<sup>105</sup> US West soon followed, acquiring non-wireline licenses in San Diego and Omaha.<sup>106</sup> Since 1986, BellSouth has acquired a number of cellular operations out of

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<sup>104</sup>*Id.* at 1089.

<sup>105</sup>*United States v. Western Elec. Co.*, 1986-1 Trade Cas. (COH) ¶ 66,987, at 62,055 (D.D.C. 1986); Gannes, *Behold the Bell Tel. Cell War*, *FORTUNE*, Dec. 22, 1986, at 97. By the end of 1986, PacTel was operating additional systems in San Diego, Sacramento, and Ventura County and had 35,000 customers in its Southern California system, making it the nation's largest cellular provider at that time. *Mobile Access Brings Cellular Service to Ventura County, Calif.*, *BUSINESS WEEK*, Oct. 2, 1986. In 1987, PacTel completed the acquisition of five integrated properties in Michigan and Ohio. PacTel acquired a 100% interest in Detroit/Ann Arbor, Flint, Grand Rapids, and Lansing, Michigan, and Toledo, Ohio. *PACIFIC TELESIS GROUP, 1987 ANNUAL REPORT* 22, 48 (1988). PacTel received full ownership of the Detroit MSA with its purchase of the Washington Post's 18% share of the license. *Via, Post Company to Sell Cellular Phone*, *WASHINGTON POST*, July 7, 1987, at E1; *PACIFIC TELESIS GROUP, 1987 ANNUAL REPORT* 48 (1988). It has also announced a joint venture with Cellular Communications, Inc. to provide service in Ohio and Puerto Rico. (PacTel will purchase 5% of CCI outright with an option to acquire further interests over the next 15 years. See, e.g., *Pacific Teleasis Looks to Ohio to Expand Midwest Market*, *MOBILE PHONE NEWS*, Aug. 2, 1990, at 1.)

<sup>106</sup>Although Omaha is within US West's region, wireline service there is provided by Centel. In 1984, US West received a waiver from the court to construct a cellular system for the Gulf of Mexico and to service it from a cell site in Venice, Louisiana. *United States v. Western Elec. Co.*, 604 F. Supp. 256, 263-264 (D.D.C. 1984). This order was modified in 1988 to allow US West to service the Gulf from a Lafayette, Louisiana cell site, and operation of the system began thereafter. *Order, United States v. Western Elec. Co.*, No. 82-0192 (D.D.C. Mar. 24, 1988). For the most part, however, US West has kept its cellular operations primarily in-region. In 1988, it sold its interest in the Gulf system to Roanoke Cellular and, more recently, divested its interests in the Great Falls MSA and in 12 RSAs in Montana, North Dakota, and Wyoming. *NETWORK WORLD*, July 4, 1988, at 11; *MOBILE PHONE NEWS*, Feb. 14, 1991, at 9; *Cellular Inc. Buys US West NewVector's Interests in 12 RSA Markets*, *MOBILE PHONE NEWS*, Jan. 17, 1991, at 7-8.

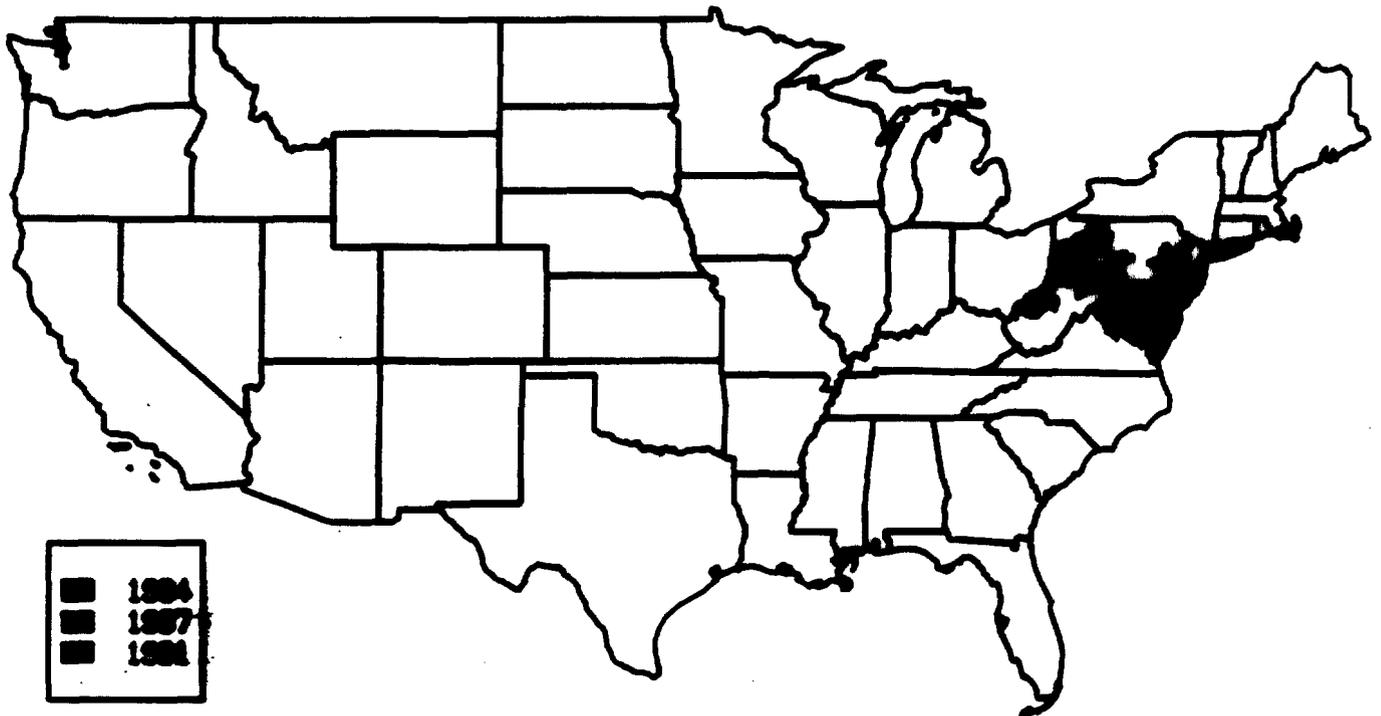
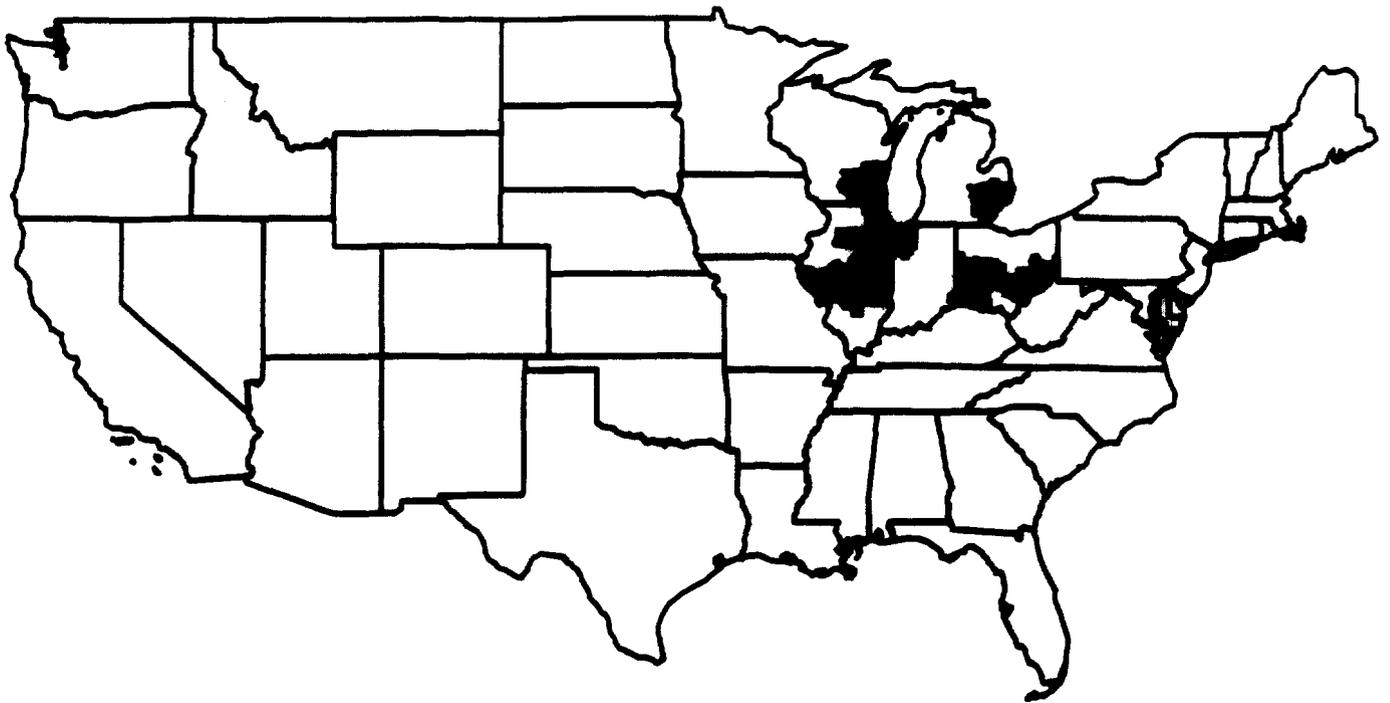
region.<sup>107</sup> Southwestern Bell has likewise acquired a number of out-of-region properties.<sup>108</sup>

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<sup>107</sup>BellSouth received a waiver in 1986 to operate out of region through its affiliation with Mobile Communications Corp. of America. Order, United States v. Western Elec. Co., No. 82-0192 (D.D.C. Oct. 31, 1986). In 1986, BellSouth acquired 50% of MCCA, which had interests in 14 cities. Gannes, *Behold the Bell Tel Cell War*, FORTUNE, Dec. 22, 1986, at 97. The two companies formed a joint venture, American Cellular Communications, which, by 1988, had sole or shared control of eight markets (Los Angeles; Houston; Milwaukee; Indianapolis; Richmond; Mobile; Jackson, Mississippi; and Bakersfield) and large minority interests in three others (Rochester, Honolulu, and Gary). In February 1988, BellSouth agreed to acquire the remaining outstanding shares of MCCA (the acquisition was completed in April 1989). BELL SOUTH CORP., 1989 ANNUAL REPORT 28, 54 (1990); see also *BellSouth Gets Order Barring MCI Cellular Sale to McCaw*, ASSOCIATED PRESS, Aug. 14, 1985.

BellSouth's acquisition of Graphic Scanning Corp. in 1991 enhanced both its cellular and paging services. *BellSouth, Graphic Scanning Complete Merger*, PR NEWswire, Sept. 17, 1991; *BellSouth Enterprises Buys Graphic Scanning Corp.*, MOBILE PHONE NEWS, Jan. 17, 1991, at 6. At the same time, BellSouth purchased McCaw's interests in 17 cellular properties in Wisconsin, Indiana, and Illinois. *BellSouth, McCaw Complete Cellular Transaction*, PR NEWswire, Sept. 23, 1991. *BellSouth Enterprises Buys 17 of McCaw's Midwest Markets*, MOBILE PHONE NEWS, Apr. 25, 1991, at 1. BellSouth attempted unsuccessfully to buy MCI's cellular properties; MCI sold out instead to McCaw. *BellSouth Gets Order Barring MCI Cellular Sale to McCaw*, ASSOCIATED PRESS, Aug. 14, 1985; MCCAW CELLULAR COMMUNICATIONS, INC., 1987 ANNUAL REPORT 14, 33 (1988).

<sup>108</sup>By the end of 1985, Southwestern Bell Mobile Systems was providing cellular service in Kansas City, St. Louis, Dallas-Fort Worth, Oklahoma City, and San Antonio and was reselling services in Miami, Los Angeles, Phoenix, and Houston. *Southwestern-Bell Announces Series to Continue as Chairman and CEO*, BUSINESS WIRE, Jan. 25, 1985. It acquired Metromedia in 1987, which added six MSAs to its properties, including 100% ownership of systems in Chicago; Boston; Washington, D.C.; and Baltimore; 91% ownership of the Worcester system; and 67% ownership in Gary, Indiana. SOUTHWESTERN BELL CORP., 1988 ANNUAL REPORT 24 (1987); PAUL KAGAN ASSOCS., 1991 CELLULAR TELEPHONE ATLAS 43, 57 (Feb. 1991). Although the purchase was announced in 1986, Southwestern did not receive court approval until late 1987. Memorandum and Order, United States v. Western Elec. Co., No. 82-0192 (D.D.C. Sept. 22, 1987). In March 1991 Southwestern finalized its acquisition of majority interests in four MSAs in Illinois from Crowley Cellular Telecommunications Limited Partnership. *Southwest Bell Unit Buys Cellular Interest*, REUTERS, Mar. 8, 1991. *Southwestern Bell Mobile Systems Acquires Illinois Cellular Properties of Crowley Cellular Telecommunications*, PR NEWswire, Oct. 5, 1990 (Southwestern received an average 92% majority interest in the four systems). Southwestern has also attempted to extend its coverage in certain areas by acquiring the non-wireline licenses in various RSAs. In December 1980, for example, Southwestern purchased Virginia RSAs 10, 11, and 12, and West Virginia 4, which will complement its Washington-Baltimore system. *Southwestern Bell Clusters in Virginia*, MOBILE PHONE NEWS, Dec. 20, 1980, at 7.

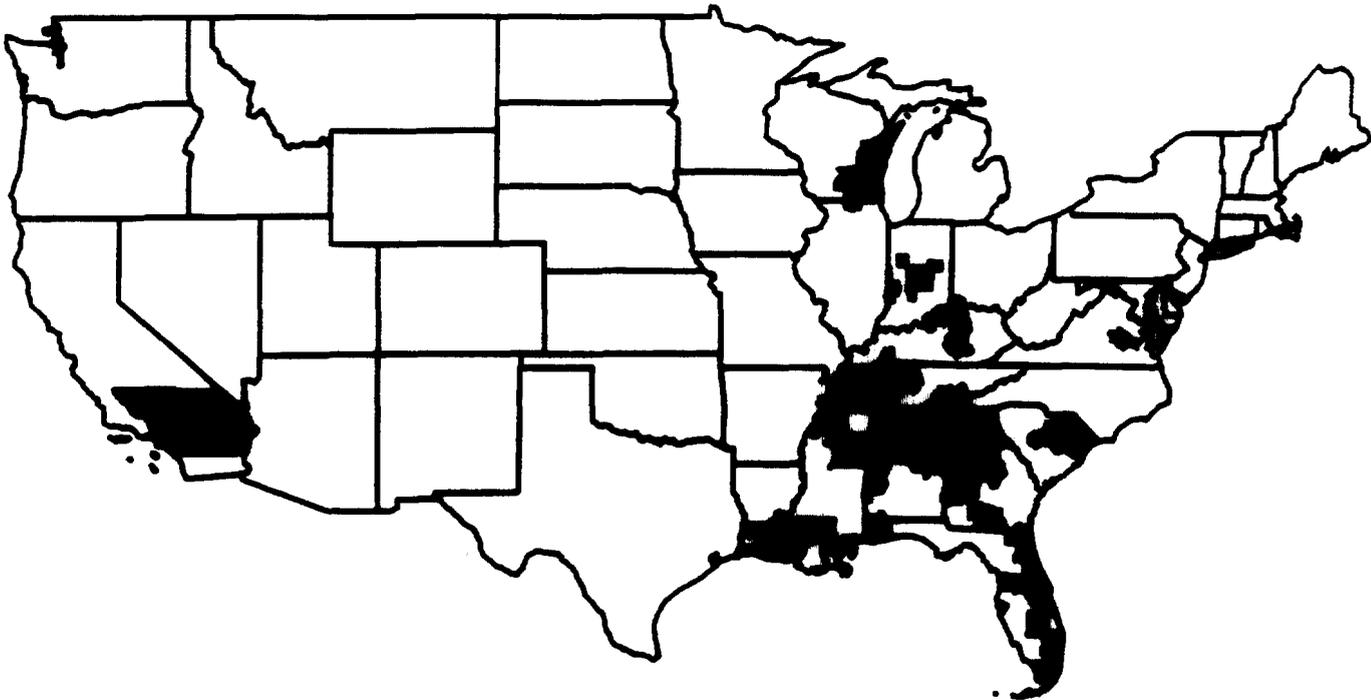


**Map 1.4(a). Development of Ameritech's Cellular Coverage.\***

**Map 1.4(b). Development of Bell Atlantic's Cellular Coverage.\*\***

\*Ameritech's acquisition of CyberTel, scheduled to close in late 1991, will give it control of several properties in Missouri and Illinois.

\*\*Bell Atlantic is in the process of transferring control of several of its RSAs to various other operators.



**Map 1.4(c). Development of BellSouth's Cellular Coverage.\***  
**Map 1.4(d). Development of NYNEX's Cellular Coverage.**

\*Through its affiliation with American Cellular Corp., BellSouth shares control of four properties with various other cellular operators. Los Angeles, in which American Cellular has a greater than 50% interest, is the only one of the four shown on the map above.