

Background on CTIA's Semi-Annual Wireless Industry Survey

CTIA's Semi-annual wireless industry survey develops industry-wide information drawn from operational member and non-member wireless service providers. It has been conducted since January 1985, originally as a cellular-only survey instrument, and has recently been designated as a survey instrument to include the new wireless service providers -- PCS and ESMR providers. No break-out of results specific to PCS or ESMR is performed at this time.

The information solicited from the service providers include: cumulative capital investment, direct employment, number of cell sites, total service revenues, roaming revenues as a subset of total service revenues, the average local monthly bill, and the average length of call. The average local monthly bill is developed on a weighted basis, to avoid skewing the figures. It is not an average of averages. No adjustments are made to these figures.

The CTIA survey also develops information on the number of reported wireless service subscribers for the responding systems, and an estimated total subscriber figure (taking into account non-responding systems). Because the CTIA survey is a voluntary survey, it cannot compel responses from wireless carriers. However, the survey has an excellent response rate. For the June 30, 1999, installment of the semi-annual survey, CTIA received responses from 3,175 of the 3,447 systems operating in the United States, a 92 percent response rate.

Because not all systems do respond, CTIA develops an estimate of total subscribership. The estimated subscriber figure is developed by determining the identity and character of non-responding markets (*i.e.*, RSA/MSA or equivalent-market designation, age of system, market population), and using a surrogate penetration rate applicable to similar, known systems to derive probable subscribership. These numbers are then summed with the reported subscriber numbers to reach the total estimated subscriber figures.

No carrier-specific or market-specific information is maintained as a result of the survey. All such information is aggregated by an independent accounting firm to a nationwide level. The underlying source material for the survey is then destroyed per confidentiality agreements.

CTIA'S SEMI-ANNUAL WIRELESS INDUSTRY SURVEY RESULTS

Date	Estimated Subscribers	Total Six-Month Revenues (\$000s)	Roamer Services Revenues (\$000s)	Cell Sites	Employees	Cum Capital Invest. (\$000s)	Average Local Monthly Bill	Avg. Local Call Length (Min)	Avg. Roam Call Length
Jan 85	91,600	178,085		346	1,404	354,760			
June 85	203,600	176,231		599	1,697	588,751			
Dec 85	340,213	306,197		913	2,727	911,167			
June 86	500,000	360,585		1,194	3,556	1,140,163			
Dec 86	681,825	462,467		1,531	4,334	1,436,753			
June 87	883,778	479,514		1,732	5,656	1,724,348			
Dec 87	1,230,855	672,005		2,305	7,147	2,234,635	\$96.83	2.33	
June 88	1,608,697	886,075		2,789	9,154	2,589,589	\$95.00	2.25	
Dec 88	2,069,441	1,073,473	89,331	3,209	11,400	3,274,105	\$98.02	2.26	
June 89	2,691,793	1,406,463	121,368	3,577	13,719	3,675,473	\$85.52	2.35	
Dec 89	3,508,944	1,934,132	173,199	4,169	15,927	4,480,142	\$89.30	2.48	
June 90	4,368,686	2,126,362	192,350	4,768	18,973	5,211,765	\$83.94	2.32	
Dec 90	5,283,055	2,422,458	263,660	5,616	21,382	6,281,596	\$80.90	2.20	
June 91	6,380,053	2,653,505	302,329	6,685	25,545	7,429,739	\$74.56	2.20	
Dec 91	7,557,148	3,055,017	401,325	7,847	26,327	8,671,544	\$72.74	2.38	
June 92	8,892,535	3,633,285	436,725	8,901	30,595	9,276,139	\$68.51	2.38	
Dec 92	11,032,753	4,189,441	537,146	10,307	34,348	11,262,070	\$68.68	2.58	
June 93	13,067,318	4,819,259	587,347	11,551	36,501	12,775,967	\$67.31	2.38	3.38
Dec 93	16,009,461	6,072,916	774,266	12,824	39,810	13,956,366	\$61.49	2.41	3.26
June 94	19,283,306	6,519,031	778,116	14,740	45,622	16,107,921	\$58.65	2.36	2.89
Dec 94	24,134,421	7,710,891	1,052,666	17,920	53,902	18,938,678	\$56.21	2.24	2.85
June 95	28,154,415	8,749,625	1,120,337	19,844	60,624	21,721,711	\$52.45	2.27	2.74
Dec 95	33,785,661	10,331,614	1,422,233	22,663	68,165	24,080,467	\$51.00	2.15	2.79
June 96	38,195,466	11,194,247	1,314,943	24,802	73,365	26,707,046	\$48.84	2.24	2.80
Dec 96	44,042,992	12,440,724	1,465,992	30,045	84,191	32,573,522	\$47.70	2.32	3.14
June 97	48,705,553	13,134,551	1,392,440	38,650	97,039	37,454,294	\$43.86	2.25	2.95
Dec 97	55,312,293	14,351,082	1,581,765	51,600	109,387	46,057,911	\$42.78	2.31	2.94
June 98	60,831,431	15,286,660	1,584,891	57,674	113,111	50,178,812	\$39.88	2.34	2.65
Dec 98	69,209,321	17,846,515	1,915,578	65,887	134,754	60,542,774	\$39.43	2.39	3.11
June 99	76,284,753	19,368,304	1,922,416	74,157	141,929	66,782,827	\$40.24	2.40	2.96

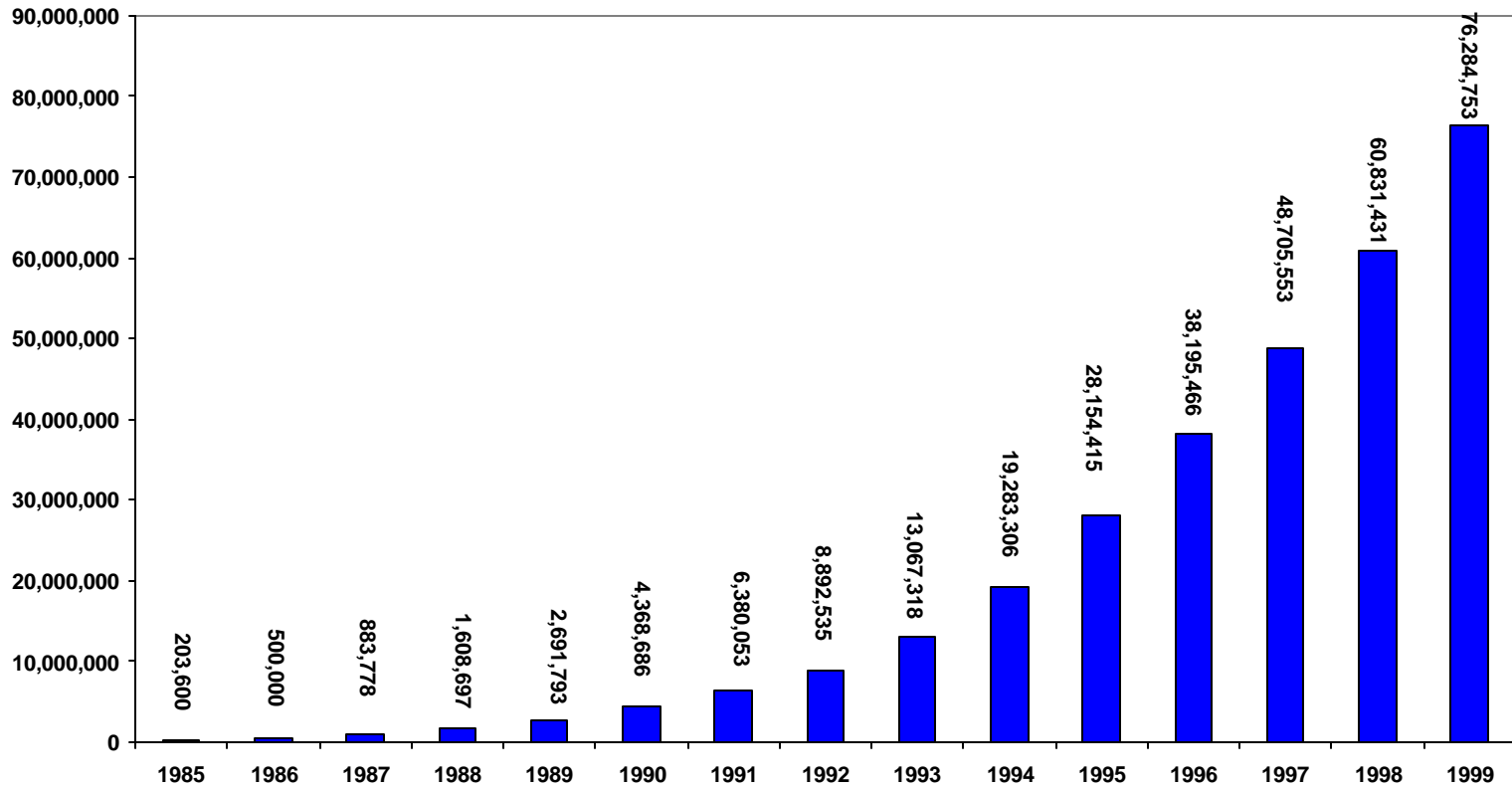
**THE CELLULAR TELECOMMUNICATIONS INDUSTRY ASSOCIATION'S
ANNUALIZED WIRELESS INDUSTRY DATA SURVEY RESULTS**

June 1985 to June 1999

Reflecting Domestic U.S. Commercially-Operational Cellular, ESMR and PCS Providers

Date	Estimated Total Subscribers	Annual Total Service Revenues (in 000s)	Annual Roamer Revenues (in 000s)	Cell Sites	Direct Service Provider Employees	Cumulative Capital Investment (in 000s)	Average Local Monthly Bill	Average Local Call Length
1985	203,600	354,316	N/a	599	1,697	588,751	N/a	N/a
1986	500,000	666,782	N/a	1,194	3,556	1,140,163	N/a	N/a
1987	883,778	941,981	N/a	1,732	5,656	1,724,348	N/a	N/a
1988	1,608,697	1,558,080	N/a	2,789	9,154	2,589,589	\$95.00	2.25
1989	2,691,793	2,479,936	210,699	3,577	13,719	3,675,473	\$85.52	2.35
1990	4,368,686	4,060,494	365,549	4,768	18,973	5,211,765	\$83.94	2.32
1991	6,380,053	5,075,963	565,989	6,685	25,545	7,429,739	\$74.56	2.20
1992	8,892,535	6,688,302	838,077	8,901	30,595	9,276,139	\$68.51	2.38
1993	13,067,318	9,008,700	1,124,493	11,551	36,501	12,775,967	\$67.31	2.38
1994	19,283,306	12,591,947	1,552,382	14,740	45,606	16,107,921	\$58.65	2.36
1995	28,154,415	16,460,516	2,173,003	19,844	60,624	21,721,711	\$52.45	2.27
1996	38,195,466	21,525,861	2,737,177	24,802	73,365	26,707,046	\$48.84	2.24
1997	48,705,553	25,575,275	2,858,432	38,650	97,039	37,454,294	\$43.86	2.25
1998	60,831,431	29,637,742	3,166,656	57,674	113,111	50,178,812	\$39.88	2.34
1999	76,284,735	37,214,819	3,837,994	74,157	141,929	66,782,827	\$40.24	2.40

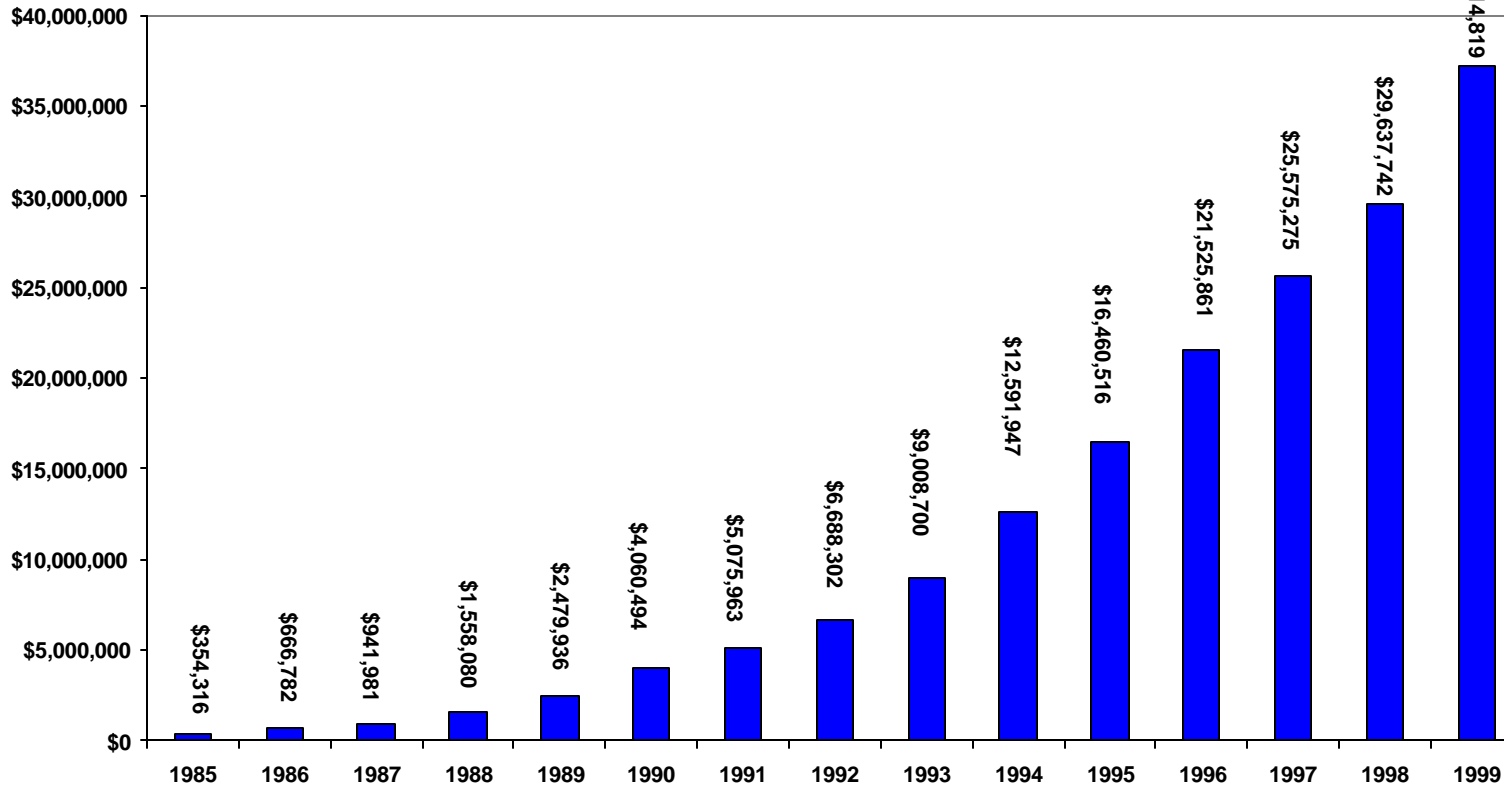
Wireless Subscribers: June 1985 - June 1999



Source: CTIA

Subscribers are up 25.5 percent since June 1998.

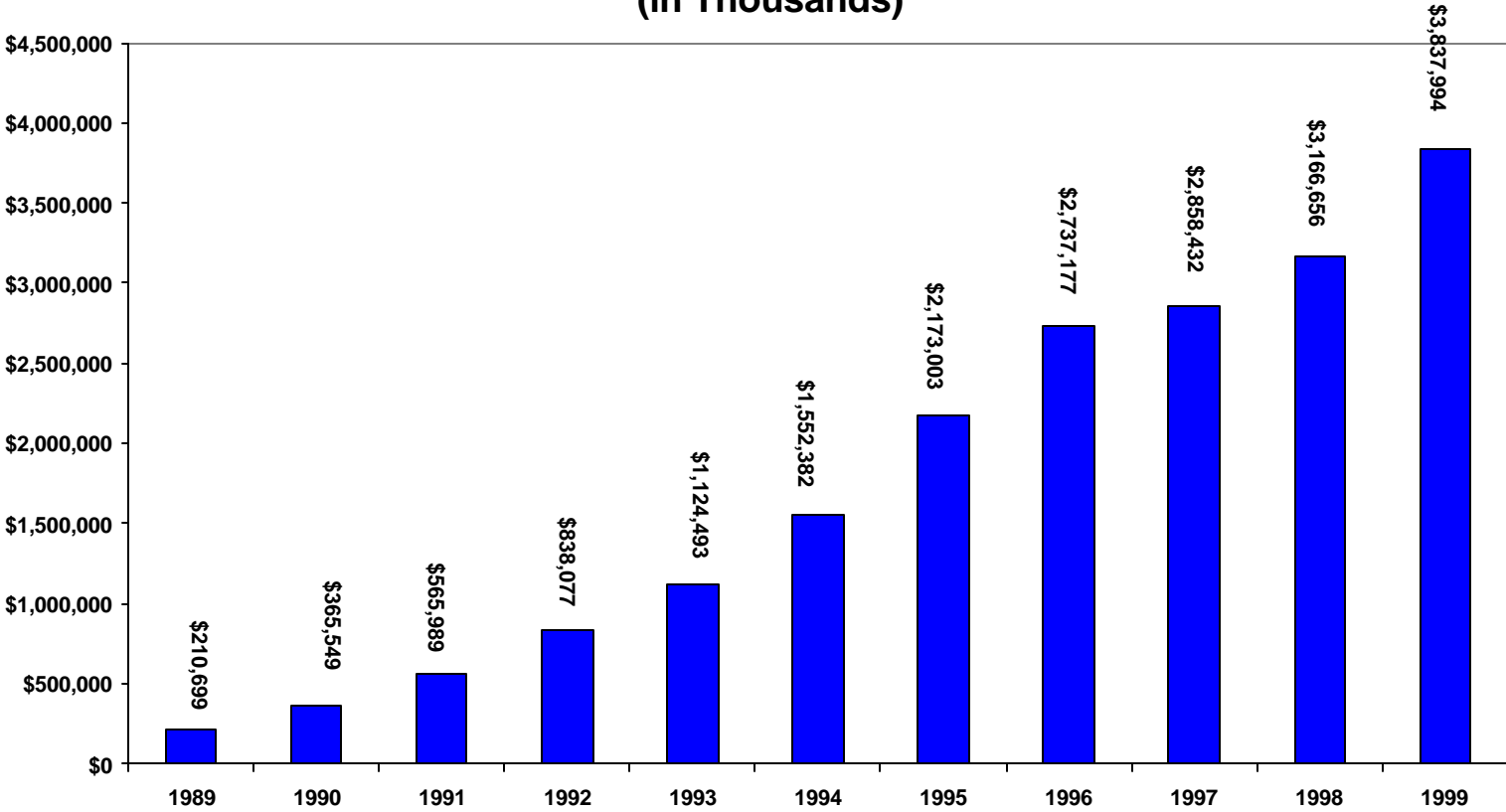
Annualized Revenues: June 1985 - June 1999 (in Thousands)



Source: CTIA

Revenues for the 12 month period ending June 1999 are up 26 percent over the 12 month period ending June 1998.

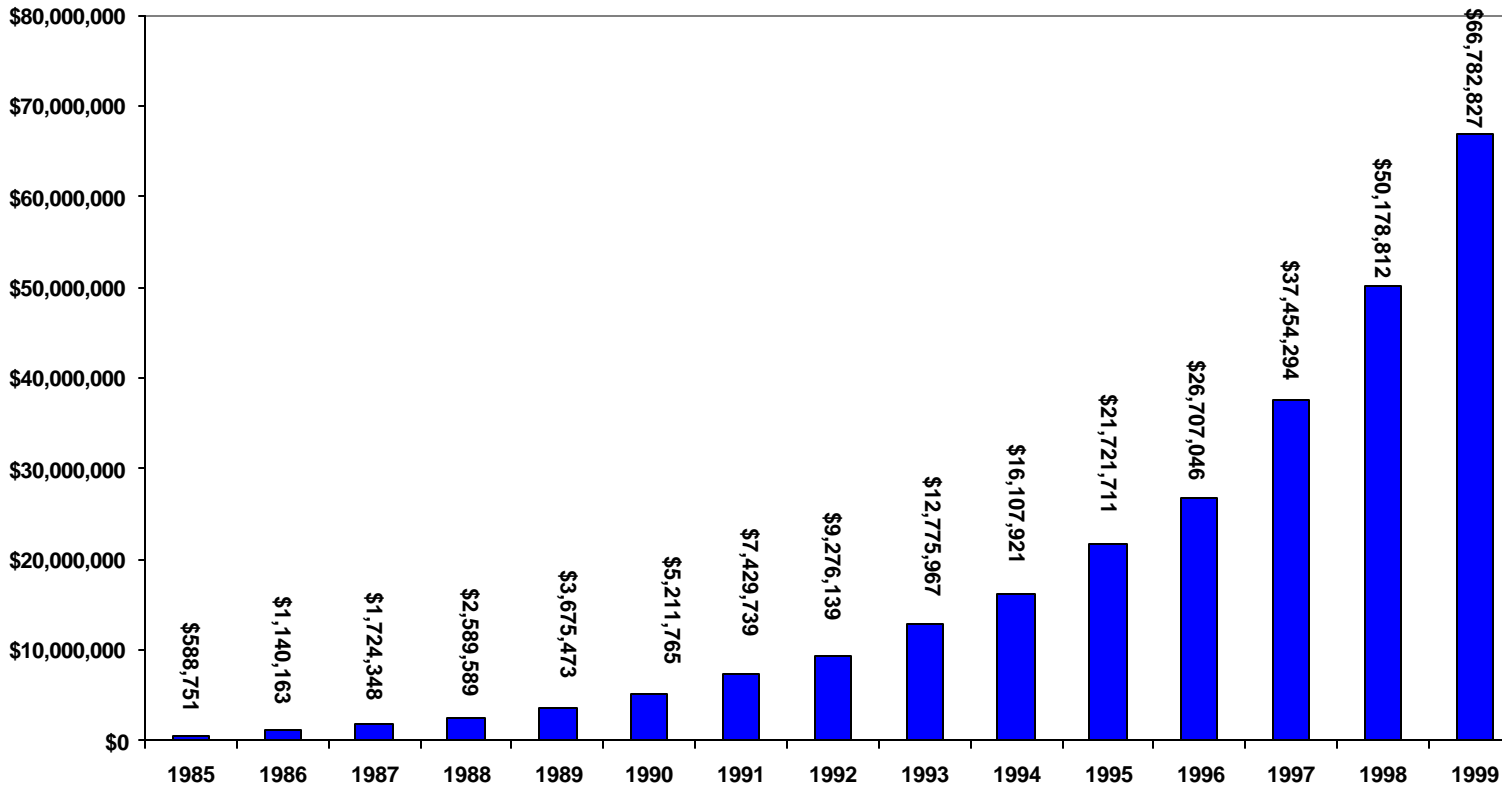
**Annualized Roamer Revenues: June 1985 - June 1999
(in Thousands)**



Source: CTIA

Revenues for the 12 month period ending June 1999 are up 21.1 percent over the 12 month period ending June 1998.

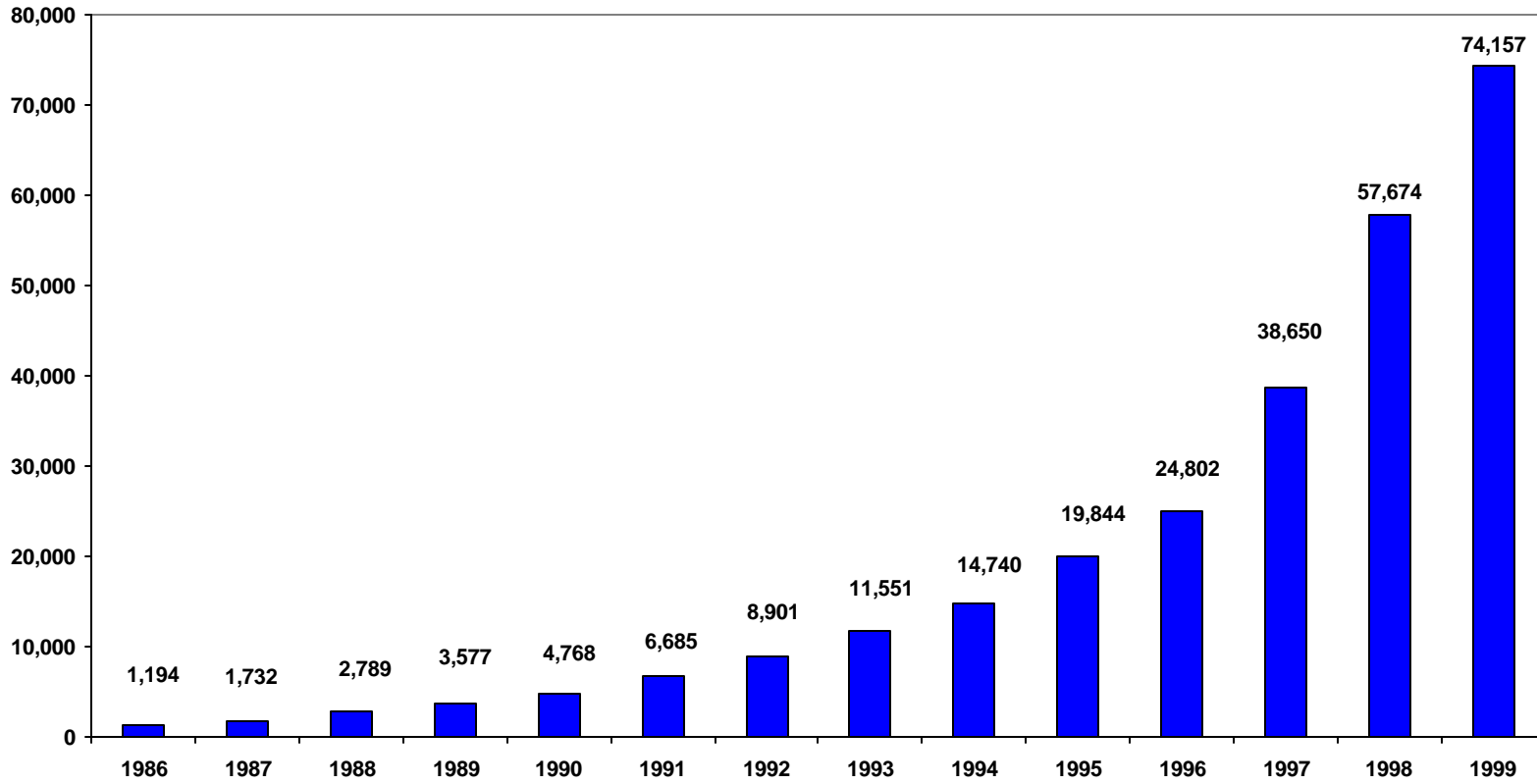
Cumulative Capital Investment: June 1985 - June 1999 (in Thousands)



Source: CTIA

**Reported Cumulative Capital Investment is up \$16.6 billion
– an increase of 33.1 percent since June 1998.**

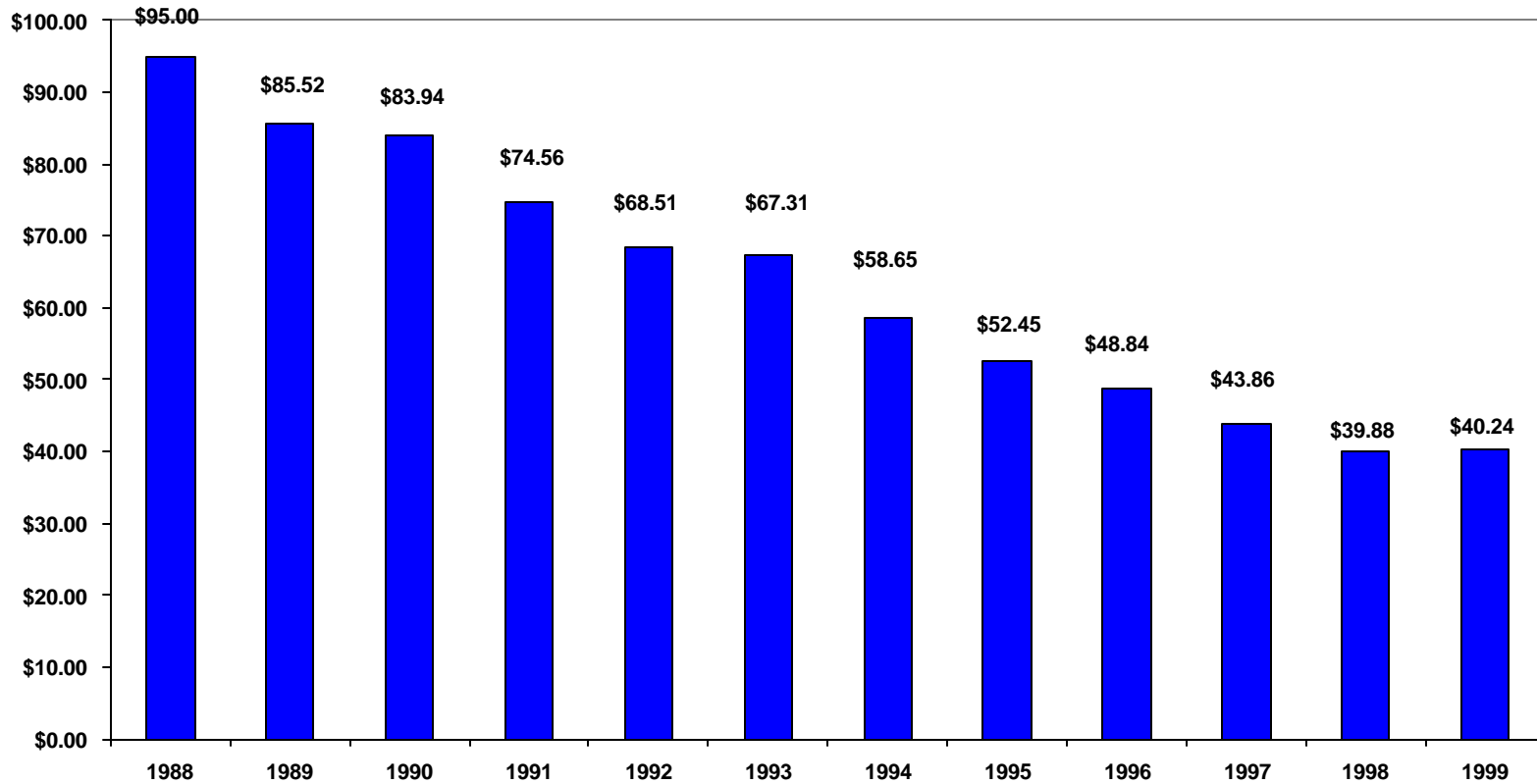
Cell Sites in Commercial Use: June 1986 - June 1999



Source: CTIA

Reported Cell Sites are up 28.6 percent since June 1998.

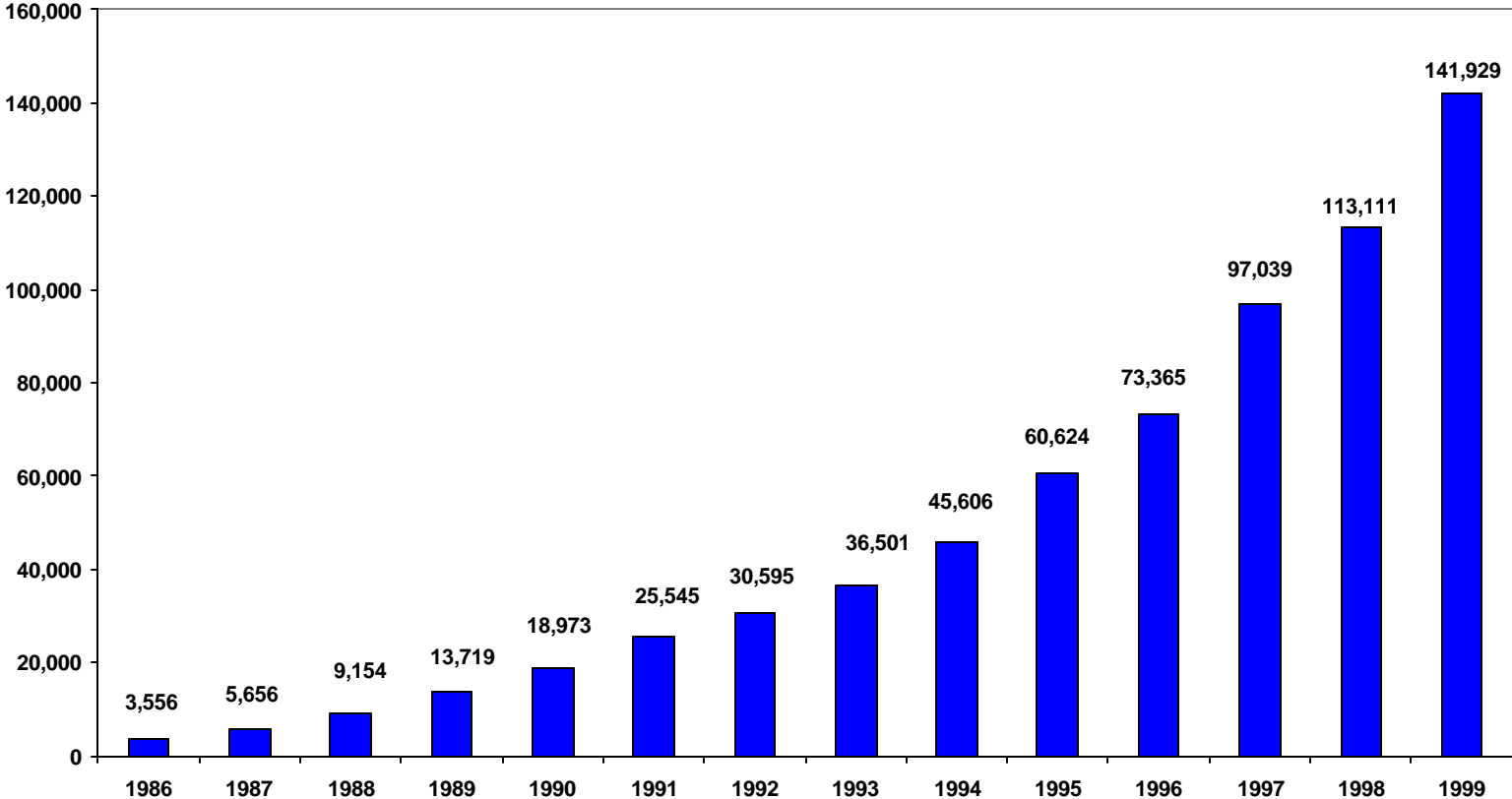
Average Local Monthly Bill: June 1988 - June 1999



Source: CTIA

Average Local Monthly Bill is up 0.9 percent since June 1998.

**Direct Employment by Wireless Service Providers:
June 1986 - June 1999**



Source: CTIA

Direct Carrier Employment is up 25.5 percent since June 1998.