Background on CTIA's Wireless Industry Survey

CTIA-The Wireless Association®'s 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 now including the community of CMRS licensees (*e.g*., PCS, ESMR, AWS, BRS and 700 MHz license holders). No break-out of results specific to spectrum bands or licenses is performed. From January 1985 through December 2012, it was conducted as a semi-annual survey, and it is now being conducted on an annual basis.

The information determined based on the survey includes: direct employment, number of cell sites, total service revenues, the average revenue per unit (ARPU), and various measures of usage (*e.g*., minutes and megabytes). The ARPU figure is not equal to the average monthly bill, which may reflect provision of service to multiple devices on a single account.

CTIA's survey develops information on the number of reported wireless service subscribers or "connections" for the responding systems, and an estimated total connections figure (taking into account non-responding systems). Because CTIA's survey is a voluntary survey, it cannot compel responses from wireless carriers. However, the survey has an excellent response rate. For the December 31, 2013, installment of the survey, CTIA aggregated data from companies serving 97 percent of all estimated wireless subscriber connections (excluding some machine-to-machine and other units not treated as "subscriber connections" for reporting purposes by some carriers).

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

The following tables and charts reflect selected top-of-the-line data. Complete results of CTIA's survey will be available for purchase in the comprehensive report, *CTIA's Wireless Industry Indices: 1985 – 2013*, including data on revenues, subscriber usage, investment, and other operational indicators and ratios. The report is available for a member price of $850 and a non-member price of $1,075. Subsequent copies are available to members at $475 each and to non-members at $535 each. Annual subscriptions are available at a member price of $1,445 and non-member price of $1,825. The report may be ordered by contacting research@ctia.org or by ordering directly from CTIA's online Store at http://store.ctia.org/. Order forms are also available on CTIA's web site, at http://files.ctia.org/pdf/Indices_Order_Form1.pdf.

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CTIA-THE WIRELESS ASSOCIATION®
ANNUALIZED WIRELESS INDUSTRY SURVEY RESULTS - DECEMBER 1985 TO DECEMBER 2013

Date	Estimated Total Subscriber Connections	Annual Service Revenues (in $000s)	Cumulative CapEx ($000)	Cell Sites	Direct Service Provider Employees	New Monthly Average Revenue per Unit	Average Local Call Length (Dec. Survey Periods)
1985	340,213	$482,428	$911,167	913	2,727	N/A	N/A
1986	681,825	$823,052	$1,436,753	1,531	4,334	N/A	N/A
1987	1,230,855	$1,151,519	$2,234,635	2,305	7,147	N/A	2.33
1988	2,069,441	$1,959,548	$3,274,105	3,209	11,400	N/A	2.26
1989	3,508,944	$3,340,595	$4,480,142	4,169	15,927	N/A	2.48
1990	5,283,055	$4,548,820	$6,281,596	5,616	21,382	N/A	2.20
1991	7,557,148	$5,708,522	$8,671,544	7,847	26,327	N/A	2.38
1992	11,032,753	$7,822,726	$11,262,070	10,307	34,348	N/A	2.58
1993	16,009,461	$10,892,175	$13,956,366	12,824	39,810	$76.55	2.41
1994	24,134,421	$14,229,922	$18,938,678	17,920	53,902	$64.80	2.24
1995	33,785,661	$19,081,239	$24,080,467	22,663	68,165	$59.43	2.15
1996	44,042,992	$23,634,971	$32,573,522	30,045	84,161	$55.40	2.32
1997	55,312,293	$27,485,633	$46,057,910	51,600	109,387	$49.39	2.31
1998	69,209,321	$33,133,175	$60,542,774	65,887	134,754	$47.23	2.39
1999	86,047,003	$40,018,489	$71,264,865	81,698	155,817	$46.39	2.38
2000	109,478,031	$52,466,020	$89,624,387	104,288	184,449	$48.55	2.56
2001	128,374,512	$65,316,235	$105,030,101	127,540	203,580	$49.79	2.74
2002	140,766,842	$76,508,187	$126,922,347	139,338	192,410	$51.00	2.73
2003	158,721,981	$87,624,093	$145,866,914	162,986	205,629	$51.55	3.07
2004	182,140,362	$102,121,210	$173,793,507	175,725	226,016	$52.54	3.05
2005	207,896,198	$113,538,221	$199,025,327	183,689	233,067	$50.65	3.00
2006	233,040,781	$125,456,825	$223,449,194	195,613	253,793	$49.07	3.03
2007	255,395,599	$138,869,304	$244,591,206	213,299	266,782	$49.26	N/A
2008	270,333,881	$148,084,170	$264,760,517	242,130	268,528	$48.87	2.27
2009	285,646,191*	$152,551,854	$285,121,591	247,081	249,247	$47.97	1.81
2010	296,285,629*	$159,929,648	$310,014,852	253,086	250,393	$47.53	1.79
2011	315,963,848*	$169,767,314	$335,331,968	283,385	238,071	$46.11	1.78
2012	326,475,248	$185,013,936	$365,426,327	301,779	230,101	$48.99	1.80
2013	335,652,171	$189,192,812	$398,567,671	304,360	230,409	$48.79	N/A

*Restated

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CTIA'S SEMI-ANNUAL WIRELESS INDUSTRY SURVEY RESULTS
PRIOR SIX-MONTH SURVEY PERIODS, DECEMBER 1985 – DECEMBER 2012

Date	Estimated Connections	Total Six-Month Revenues ($000)	Cumulative CapEx ($000)	Cell Sites	Employees	Old Monthly Average Revenue per Unit	Avg. Local Call Length	Avg. Roam Call Length
Dec-85	340,213	$306,197	$911,167	913	2,727	N/A	N/A	N/A
Jun-86	500,000	$360,585	$1,140,163	1,194	3,556	N/A	N/A	N/A
Dec-86	681,825	$462,467	$1,436,753	1,531	4,334	N/A	N/A	N/A
Jun-87	883,778	$479,514	$1,724,348	1,732	5,656	N/A	N/A	N/A
Dec-87	1,230,855	$672,005	$2,234,635	2,305	7,147	N/A	N/A	N/A
Jun-88	1,608,697	$886,075	$2,589,589	2,789	9,154	N/A	N/A	N/A
Dec-88	2,069,441	$1,073,473	$3,274,105	3,209	11,400	N/A	N/A	N/A
Jun-89	2,691,793	$1,406,463	$3,675,473	3,577	13,719	N/A	N/A	N/A
Dec-89	3,508,944	$1,934,132	$4,480,142	4,169	15,927	N/A	N/A	N/A
Jun-90	4,368,686	$2,126,362	$5,211,765	4,768	18,973	N/A	N/A	N/A
Dec-90	5,283,055	$2,422,458	$6,281,596	5,616	21,382	N/A	N/A	N/A
Jun-91	6,380,053	$2,653,505	$7,429,739	6,685	25,545	N/A	N/A	N/A
Dec-91	7,557,148	$3,055,017	$8,671,544	7,847	26,327	N/A	N/A	N/A
Jun-92	8,892,535	$3,633,285	$9,276,139	8,901	30,595	N/A	N/A	N/A
Dec-92	11,032,753	$4,189,441	$11,262,070	10,307	34,348	N/A	N/A	N/A
Jun-93	13,067,318	$4,819,259	$12,775,967	11,551	36,501	$71.75	2.38	3.38
Dec-93	16,009,461	$6,075,916	$13,956,366	12,824	39,810	$76.98	2.41	3.26
Jun-94	19,283,306	$6,519,031	$16,107,921	14,740	45,622	$66.37	2.36	2.89
Dec-94	24,134,421	$7,710,891	$18,938,678	17,920	53,902	$63.53	2.24	2.85
Jun-95	28,154,414	$8,749,625	$21,721,711	19,844	60,689	$59.37	2.27	2.74
Dec-95	33,758,661	$10,330,614	$24,080,467	22,663	68,165	$59.48	2.15	2.79
Jun-96	38,195,466	$11,194,247	$26,707,046	24,802	73,365	$56.23	2.24	2.8
Dec-96	44,042,992	$12,440,724	$32,573,522	30,045	84,161	$54.66	2.32	3.14
Jun-97	48,705,553	$13,134,551	$37,454,294	38,650	97,039	$50.25	2.25	2.95
Dec-97	55,312,293	$14,351,082	$46,057,910	51,600	109,387	$48.62	2.31	2.94
Jun-98	60,831,431	$15,286,660	$50,178,812	57,674	113,111	$46.45	2.34	2.65
Dec-98	69,209,321	$17,846,515	$60,542,774	65,887	134,754	$47.93	2.39	3.11
Jun-99	76,284,753	$19,368,304	$66,782,827	74,157	141,929	$47.02	2.40	2.96
Dec-99	86,047,003	$20,650,185	$71,264,865	81,698	155,817	$45.82	2.38	3.11

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CTIA'S SEMI-ANNUAL WIRELESS INDUSTRY SURVEY RESULTS
DECEMBER 1985 – DECEMBER 2012

Date	Estimated Connections	Total Six-Month Revenues ($000)	Cumulative CapEx ($000)	Cell Sites	Employees	Old Monthly Average Revenue per Unit	Avg. Local Call Length	Avg. Roam Call Length
Jun-00	97,035,925	$24,645,365	$76,652,358	95,733	159,645	$48.95	2.48	3.19
Dec-00	109,478,031	$27,820,655	$89,624,387	104,288	184,449	$48.21	2.56	3.23
Jun-01	118,397,734	$30,905,721	$99,728,695	114,059	186,317	$49.12	2.62	3.01
Dec-01	128,374,512	$34,410,513	$105,030,101	127,540	203,580	$50.41	2.74	2.94
Jun-02	134,561,370	$36,707,086	$118,418,677	131,350	186,956	$50.00	2.60	3.07
Dec-02	140,766,842	$39,801,101	$126,922,347	139,338	192,410	$51.97	2.73	3.11
Jun-03	148,065,824	$41,384,171	$134,147,049	147,719	187,169	$50.85	2.63	3.15
Dec-03	158,721,981	$46,239,922	$145,866,914	162,986	205,629	$52.18	3.07	3.45
Jun-04	169,467,393	$49,275,671	$156,700,380	174,368	212,186	$52.31	3.06	3.45
Dec-04	182,140,362	$52,845,539	$173,793,507	175,725	226,016	$52.75	3.05	2.80
Jun-05	194,479,364	$55,689,208	$186,844,427	178,025	225,162	$51.43	3.04	2.66
Dec-05	207,896,198	$57,849,013	$199,025,327	183,689	233,067	$49.92	3.00	3.36
Jun-06	219,652,457	$60,450,669	$209,545,327	197,576	238,236	$48.77	2.94	3.40
Dec-06	233,040,781	$65,006,156	$223,449,194	195,613	253,793	$49.34	3.03	3.47
Jun-07	243,428,202	$67,887,668	$233,158,248	210,360	257,401	$49.10	3.13	3.35
Dec-07	255,395,599	$70,981,636	$244,591,206	213,299	266,782	$49.41	N/A	3.40
Jun-08	262,720,165	$72,728,764	$254,184,843	220,472	267,855	$48.68	2.43	3.16
Dec-08	270,333,881	$75,355,406	$264,760,517	242,130	268,528	$49.04	2.27	3.27
Jun-09	276,610,580	$75,848,319	$273,639,279	245,912	261,453	$48.19	2.03	3.39
Dec-09	285,646,191*	$76,703,534	$285,121,590	247,081	249,247	$47.74	1.81	3.30
Jun-10	292,847,098*	$79,109,620	$295,204,270	251,618	235,021	$47.70	1.67	3.28
Dec-10	296,285,629*	$80,820,028	$310,014,852	253,086	250,393	$47.40	1.79	3.28
Jun-11	306,300,207*	$83,733,905	$322,732,059	256,920	243,239	$46.10	1.83	5.16
Dec-11	315,963,848*	$86,033,409	$335,331,967	283,385	238,071	$46.11	1.78	3.32
Jun-12	321,716,905	$92,317,986	$348,177,768	285,561	229,921	$49.26	1.80	3.35
Dec-12	326,475,248	$92,695,950	$365,426,327	301,779	230,101	$48.73	1.80	3.30

*Restated

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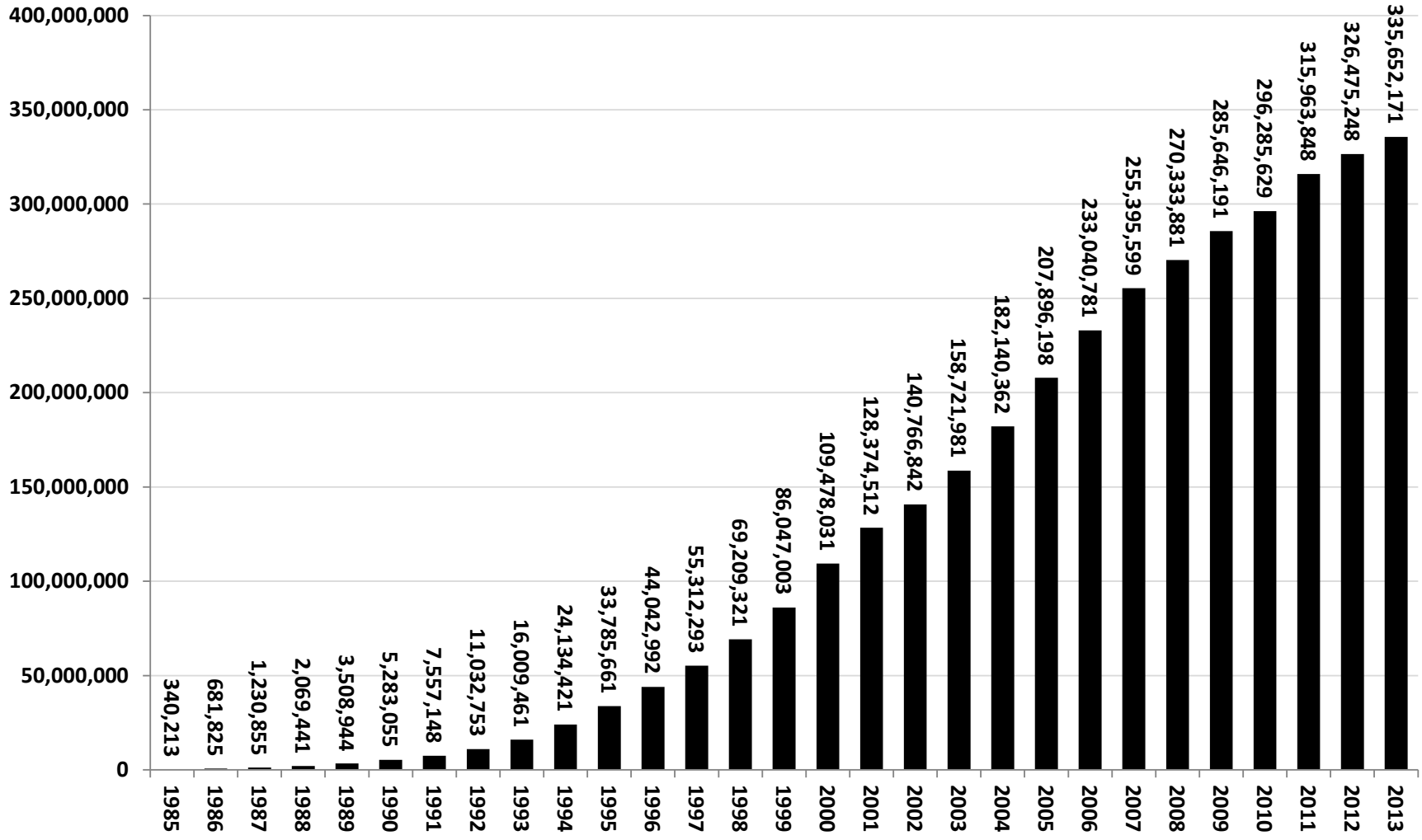
Estimated Subscriber Connections



Year-End Estimated Connections Exceed 335 Million

Source: CTIA

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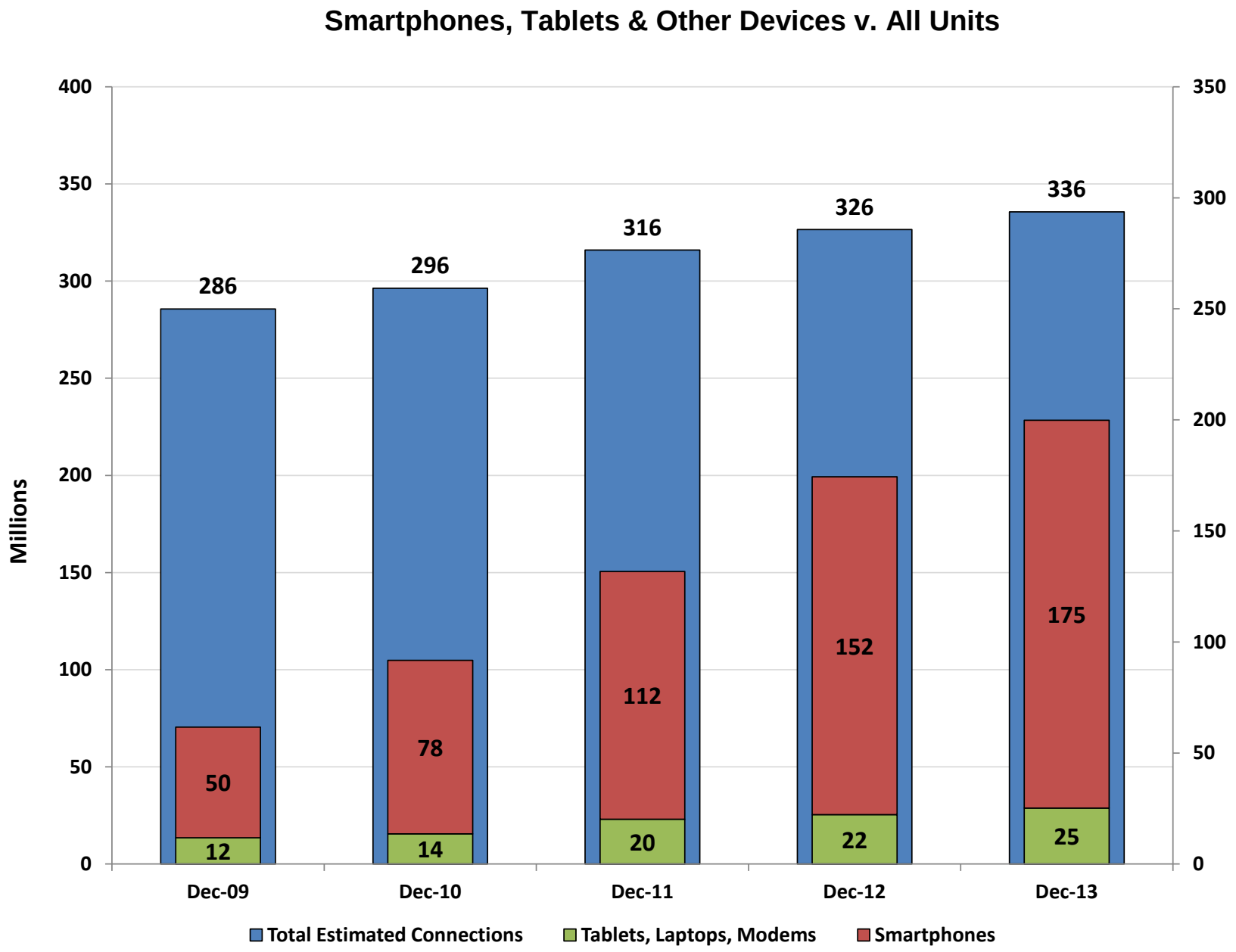

Source: CTIA

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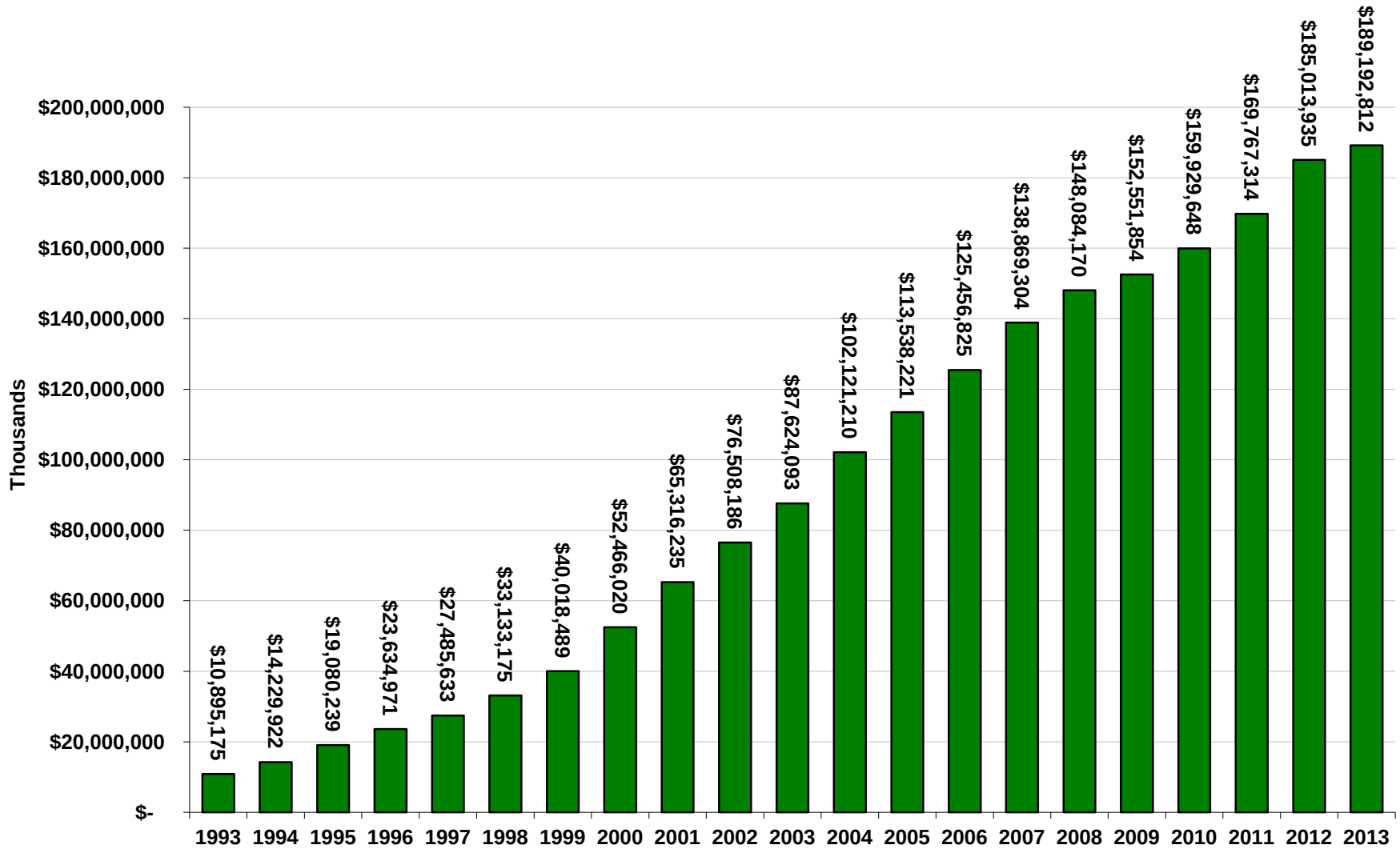
Annual Total Service Revenues (000s)



Total Service Revenues Rise 2% Year-Over-Year

Source: CTIA

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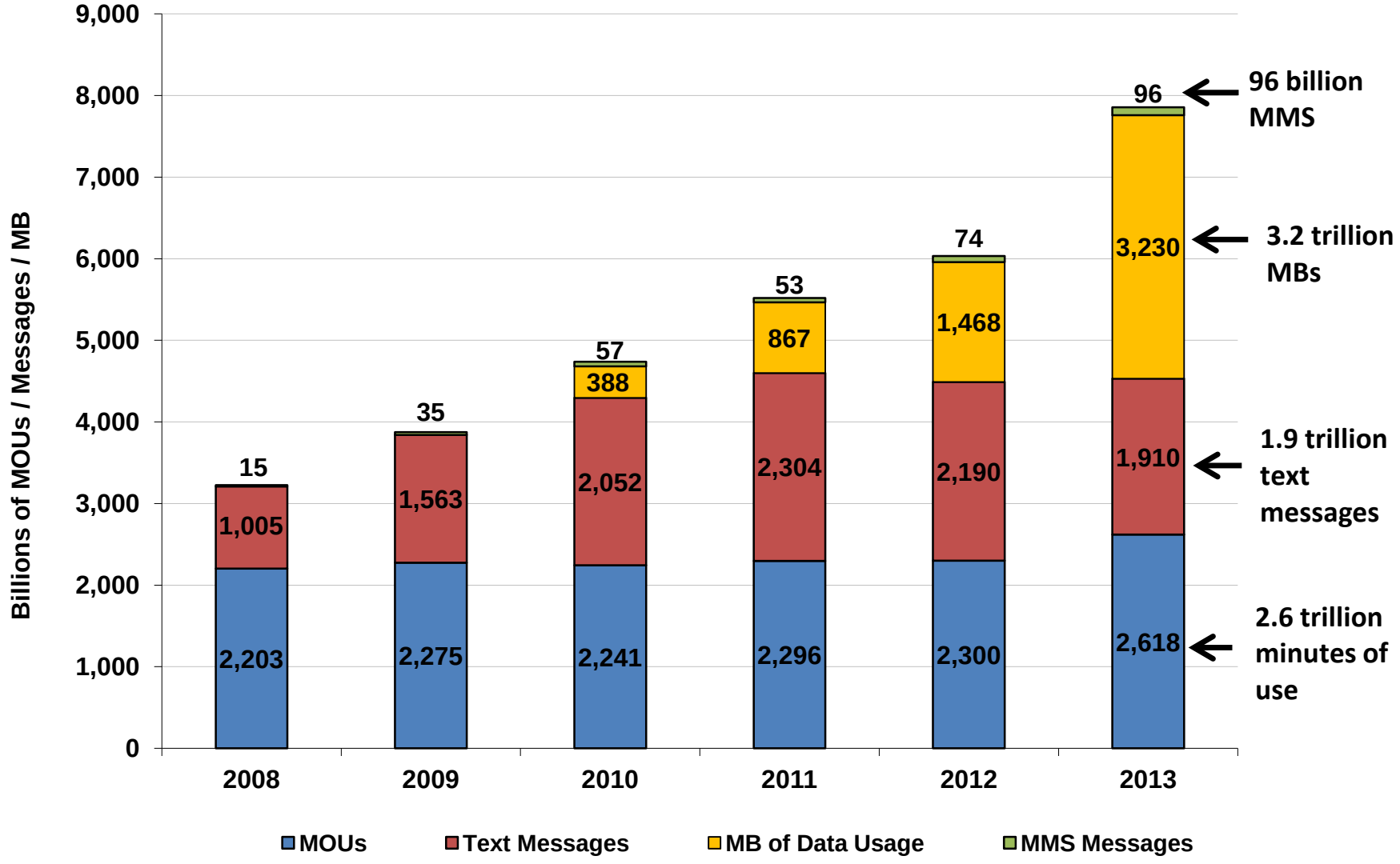
Annual Minutes, Messages and MB of Wireless Traffic



The Mix of Minutes, Messages and MBs Change

Source: CTIA

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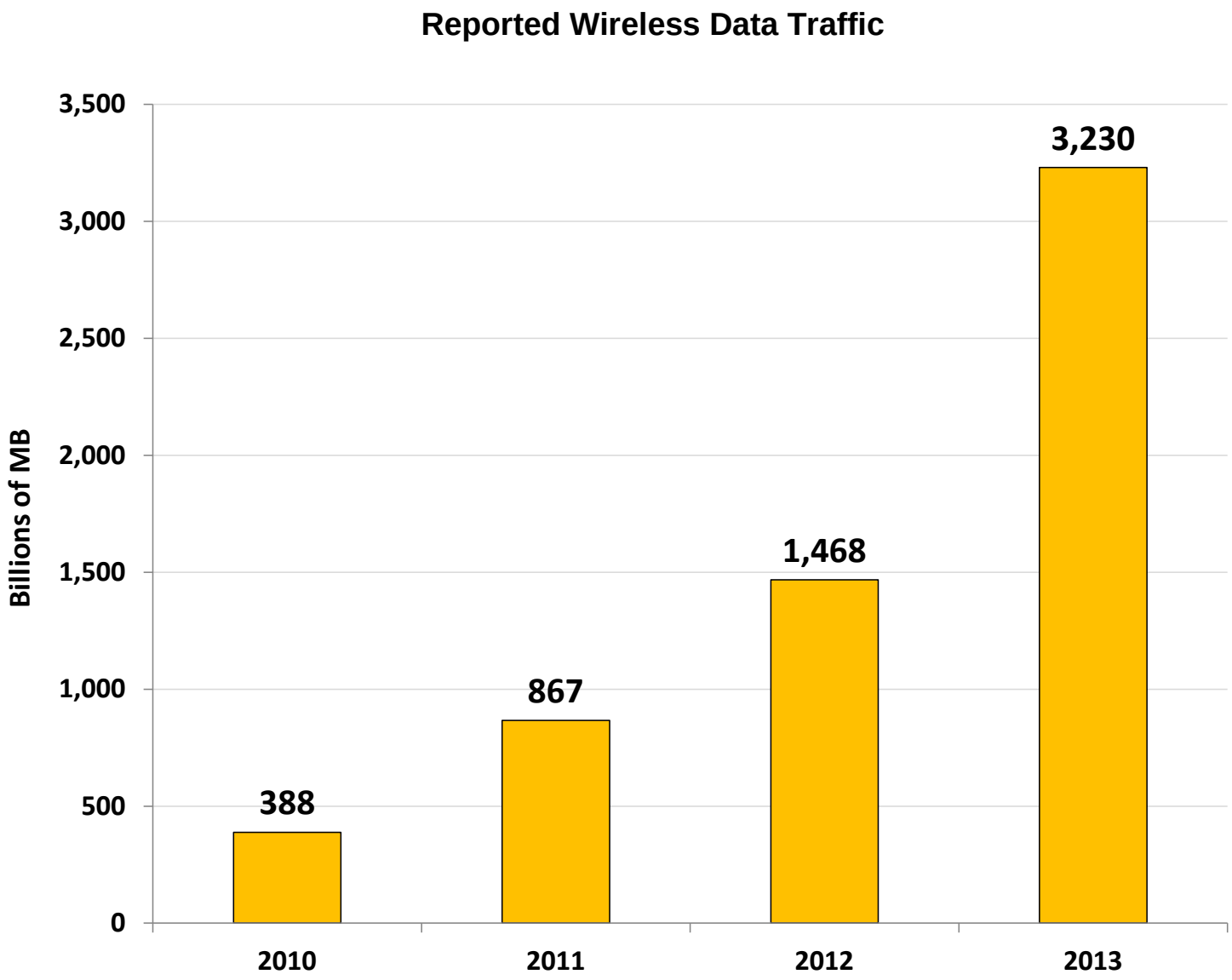

Reported Annual Data Traffic Grew 120% Year-Over-Year

Source: CTIA

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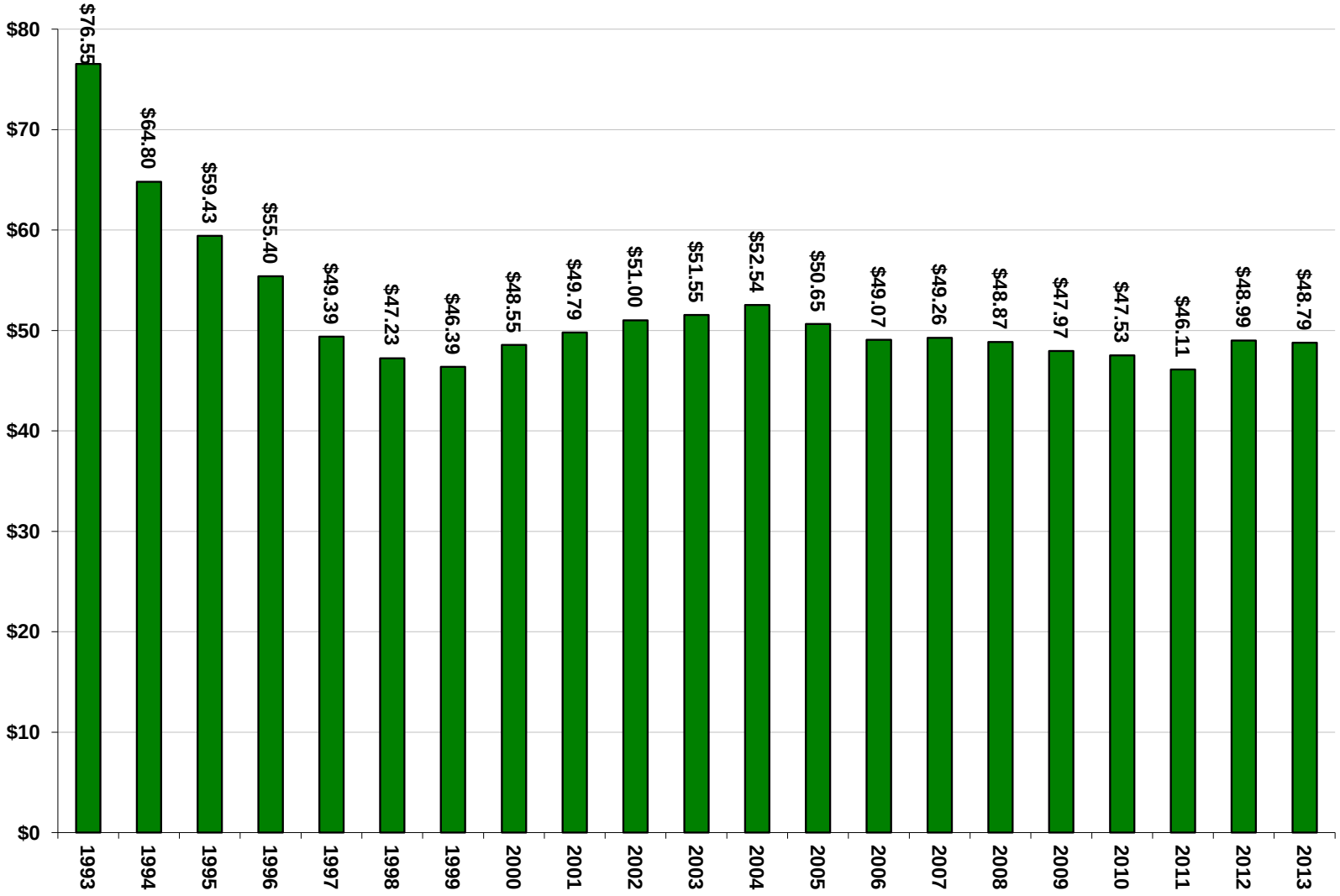
Newly Calculated Monthly Average Revenue per Unit (ARPU)



Monthly Average Revenue per Unit Down 0.4% Year-Over-Year

Source: CTIA

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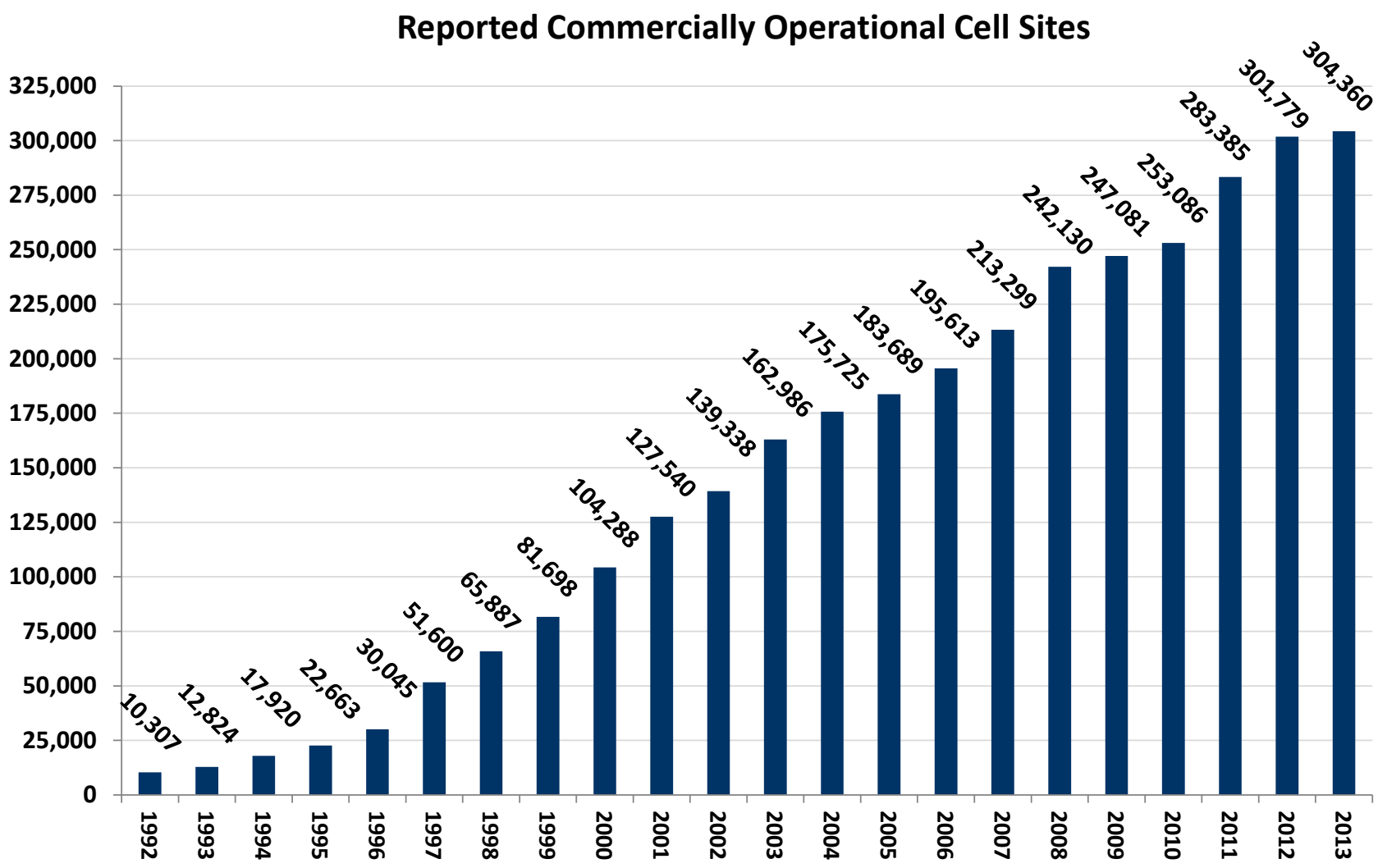

Reported Cell Sites Up 0.9% Year-Over-Year

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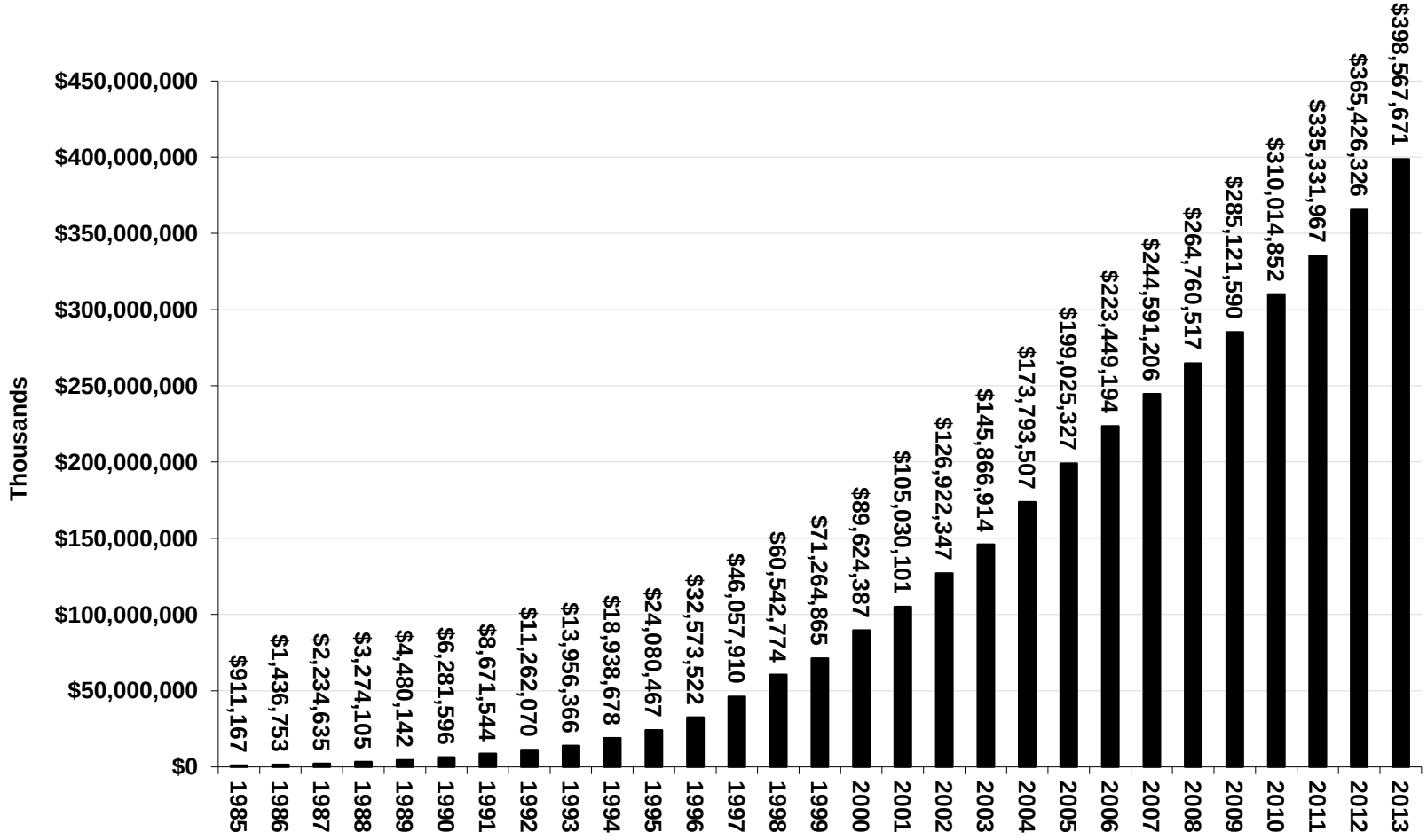
Source: CTIA

Reported Cumulative Capital Investment Nears $400 Billion



Reported Cumulative Capex Rises 9% Year-Over-Year, Including Unreported Prior Capex Increases Year-End Total to More Than $402 Billion

Source: CTIA

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