

Value of Construction Put in Place

SEPTEMBER 1998



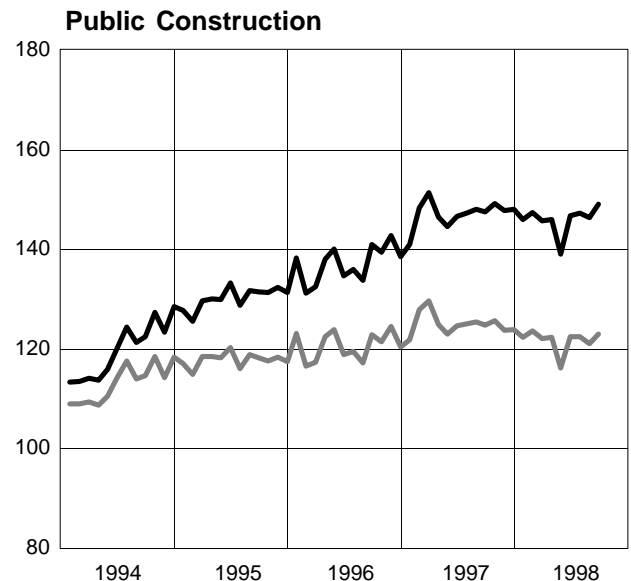
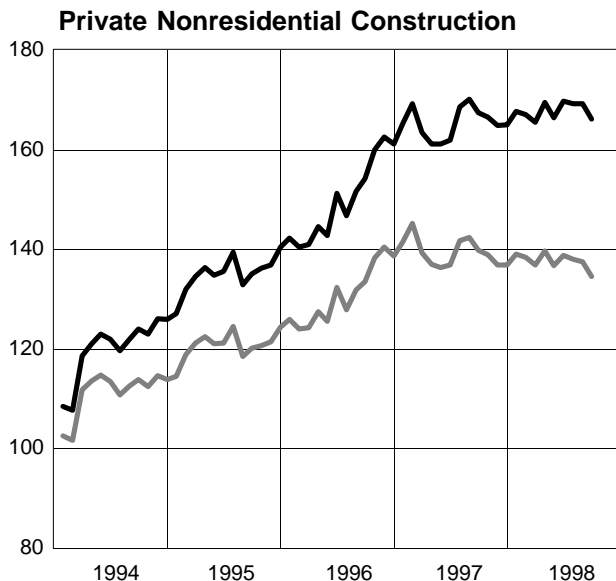
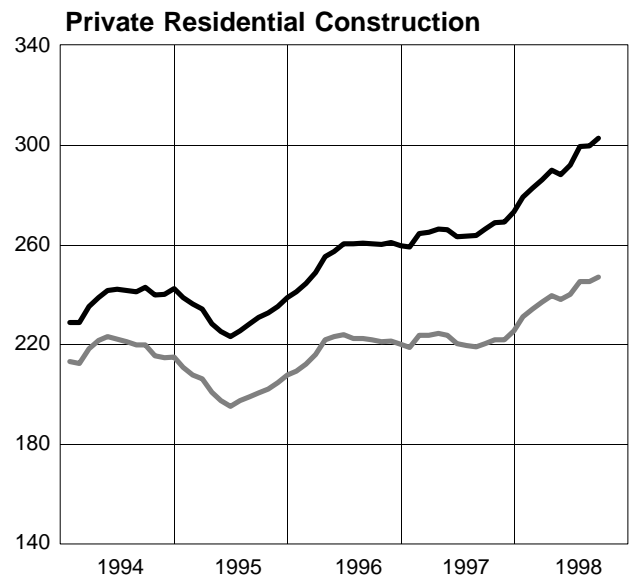
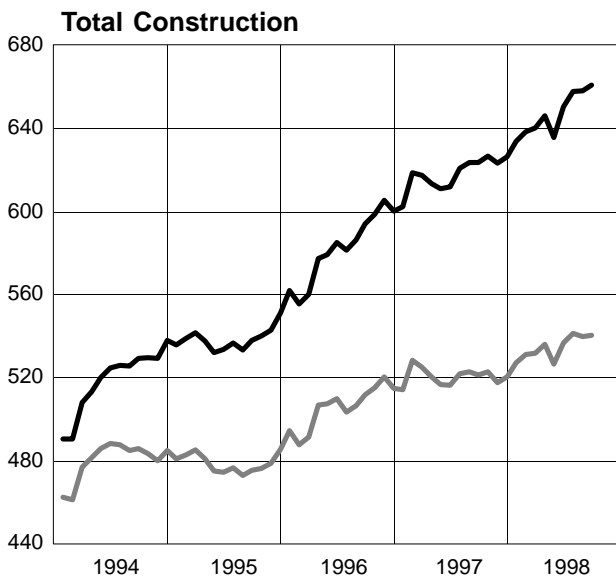
U.S. Department of Commerce
Economics and Statistics Administration
BUREAU OF THE CENSUS

C30/98-9
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Monthly Value of Construction Put in Place

(Seasonally adjusted annual rate in billions of dollars)

— Current dollars
— 1992 dollars



Source: U.S. Bureau of the Census, Value of Construction Put in Place.

VALUE OF CONSTRUCTION PUT IN PLACE

Construction put in place during September 1998 was estimated at a seasonally adjusted annual rate of \$660.6 billion, nearly the same (± 5 percent) as the revised August estimate of \$657.8 billion. The September figure represents a 6(± 5) percent increase over September 1997.

During the first 9 months of this year \$482.7 billion of construction was put in place, 5 percent above the \$458.8 billion for the same period in 1997.

In constant (1992) dollars, the September annual rate was \$540.2 billion, nearly the same (± 5 percent) as the revised estimate of \$539.6 billion for August.

Spending on new residential housing units was at a seasonally adjusted annual rate of \$214.5 billion in September, 1(± 2) percent above the revised August estimate of \$212.1 billion. Nonresidential building construction was at a rate of \$166.0 billion, 2(± 3) percent below the revised August estimate of \$169.2 billion.

In September, the estimated seasonally adjusted annual rate of public construction put in place was \$148.9 billion, 2(± 5) percent above the revised August estimate of \$146.2 billion.

The "value of construction put in place" is a measure of the value of construction installed or erected at the site during a given period. For an individual project, this includes—

1. Cost of materials installed or erected.
2. Cost of labor (both by contractors and force account) and a proportionate share of the cost of construction equipment rental.
3. Contractor's profit.
4. Project owner's overhead and office costs.
5. Cost of architectural and engineering work.
6. Miscellaneous costs chargeable to the project on the owner's books.
7. Interest and taxes paid during construction.

The total value-in-place for a given period is the sum of the value of work done on all projects underway during this period, regardless of when work on each individual project was started or when payment was made to the contractors. For some categories, estimates are derived by distributing the total construction cost of the project by means of historic construction progress patterns.

ADDITIONAL DATA

Additional data related to the value of construction put in place can be found in the following publications:

- Current Construction Reports, *Value of Construction Put in Place: May 1998*, C30/98-5, U.S. Department of Commerce, Bureau of the Census, Washington, DC, 1998; contains annual data for 1993 to 1997 and monthly data for 1995 to 1997.
- Current Construction Reports, *Value of Construction Put in Place: July 1998*, C30/98-7, U.S. Department of Commerce, Bureau of the Census, Washington, DC, 1998; contains annual value of construction put in place for private nonresidential buildings by geographic area and detailed types of construction for 1993 to 1997.
- Current Construction Reports, *Value of New Construction Put in Place: October 1992*, C30/92-10, U.S. Department of Commerce, Bureau of the Census, Washington, DC, 1992; contains total time and monthly progress from start to completion for private nonresidential buildings and for state and local construction.
- Current Construction Reports, *Value of New Construction Put in Place in the United States, 1964 to 1980*, C30-80 supplement, U.S. Department of Commerce, Bureau of the Census, Washington, DC, 1981; contains annual data for 1915 to 1963.
- Current Construction Reports Special Study, *Expenditures for Nonresidential Improvements and Repairs: 1992*, U.S. Department of Commerce, Bureau of the Census, Washington, DC, 1994.

Table 1. Annual Value of Construction Put in Place: 1993-1997

[Millions of dollars]

Type of construction	Current dollars					Constant (1992) dollars				
	1993	1994	1995	1996	1997	1993	1994	1995	1996	1997
Total construction	478,648	519,539	538,134	583,638	618,217	461,078	480,620	478,069	506,655	520,117
Private construction	362,688	399,346	407,477	446,306	471,159	347,851	367,247	360,040	385,967	395,321
Residential buildings	210,455	238,874	230,688	256,460	265,610	200,502	218,005	201,677	220,017	221,546
New housing units	144,071	167,919	162,898	179,448	187,075	137,243	153,250	142,413	153,966	156,038
1 unit	133,282	153,838	145,009	159,124	164,444	126,960	140,416	126,773	136,516	137,156
2 or more units	10,788	14,081	17,889	20,324	22,631	10,283	12,833	15,640	17,450	18,882
Improvements	66,384	70,955	67,790	77,012	78,535	63,259	64,755	59,264	66,052	65,508
Nonresidential buildings	110,635	120,285	135,022	150,350	165,146	106,729	111,416	120,627	131,188	139,067
Industrial	26,482	28,947	32,505	32,657	31,394	25,554	26,803	29,043	28,503	26,440
Office	20,920	22,178	25,613	27,886	32,816	20,197	20,553	22,891	24,329	27,631
Hotels, motels	4,565	4,648	7,112	10,912	12,752	4,405	4,308	6,351	9,521	10,741
Other commercial	32,453	37,551	42,654	48,188	50,763	31,292	34,756	38,098	42,042	42,748
Religious	3,887	3,869	4,326	4,534	5,885	3,748	3,584	3,864	3,955	4,951
Educational	4,649	4,822	5,493	6,742	8,437	4,484	4,471	4,908	5,880	7,101
Hospital and institutional	12,492	12,268	11,248	11,780	13,741	12,050	11,377	10,051	10,280	11,576
Miscellaneous ¹	5,188	6,002	6,071	7,650	9,358	5,000	5,565	5,421	6,677	7,880
Farm nonresidential	3,392	3,226	3,014	3,804	3,956	3,271	2,990	2,692	3,319	3,329
Public utilities	34,925	34,071	35,859	33,261	34,188	34,120	32,074	32,401	29,286	29,448
Telecommunications	9,619	10,121	11,093	11,772	11,626	9,468	9,785	10,073	10,245	9,918
Other public utilities	25,306	23,950	24,766	21,489	22,562	24,652	22,289	22,328	19,041	19,529
Railroads	3,108	3,340	3,509	4,398	5,059	3,056	3,186	3,201	3,894	4,321
Electric light and power	15,567	14,918	14,049	11,211	12,144	15,096	13,877	12,656	9,914	10,545
Gas	5,645	4,694	6,279	4,865	4,390	5,536	4,308	5,637	4,330	3,820
Petroleum pipelines	986	998	929	1,015	969	965	918	834	903	843
All other private ²	3,281	2,890	2,893	2,431	2,258	3,229	2,763	2,643	2,156	1,931
Public construction	115,960	120,193	130,657	137,333	147,058	113,227	113,373	118,029	120,688	124,796
Buildings	48,559	49,446	55,700	58,659	63,603	46,813	45,728	49,683	51,119	53,515
Housing and redevelopment ..	4,011	3,835	4,491	4,614	4,861	3,833	3,495	3,928	3,958	4,055
Industrial	1,718	1,465	1,508	1,389	998	1,658	1,358	1,348	1,214	842
Educational	19,129	20,361	23,278	24,112	27,065	18,465	18,838	20,800	21,035	22,786
Hospital	3,710	3,951	4,332	4,638	5,042	3,579	3,663	3,871	4,050	4,247
Other ³	19,991	19,834	22,089	23,907	25,637	19,279	18,373	19,737	20,863	21,585
Highways and streets	34,299	37,419	38,498	41,243	45,197	34,164	36,219	35,303	36,483	38,605
Military facilities	2,453	2,318	3,011	2,634	2,620	2,405	2,196	2,728	2,317	2,223
Conservation and development ..	5,937	6,363	6,368	6,011	5,658	5,771	5,996	5,779	5,335	4,841
Sewer systems	8,863	8,700	9,435	10,433	10,463	8,622	8,199	8,557	9,260	8,951
Water supply facilities	5,085	4,647	5,283	5,964	6,339	4,868	4,237	4,695	5,187	5,393
Miscellaneous public ⁴	10,765	11,301	12,362	12,388	13,177	10,583	10,799	11,284	10,987	11,267

¹Includes amusement and recreational buildings, bus and airline terminals, animal hospitals and shelters, etc.

²Includes privately owned streets and bridges, parking areas, sewer and water facilities, parks and playgrounds, golf courses, airfields, etc.

³Includes general administrative buildings, prisons, police and fire stations, courthouses, civic centers, passenger terminals, space facilities, postal facilities, etc.

⁴Includes open amusement and recreational facilities, power generating facilities, transit systems, airfields, open parking facilities, etc.

Table 2. Annual Value of Public Construction Put in Place: 1993-1997

[Millions of dollars]

Type of construction	Current dollars					Constant (1992) dollars				
	1993	1994	1995	1996	1997	1993	1994	1995	1996	1997
Total public construction	115,960	120,193	130,657	137,333	147,058	113,227	113,373	118,029	120,688	124,796
State and local construction	101,535	105,753	114,906	121,965	132,777	99,200	99,804	103,816	107,169	112,687
Total buildings	42,865	44,303	49,657	52,429	57,497	41,323	40,972	44,294	45,689	48,379
Housing and redevelopment	3,775	3,389	3,915	3,933	4,185	3,608	3,089	3,424	3,374	3,490
Educational	19,108	20,335	23,252	24,099	27,046	18,445	18,814	20,776	21,024	22,770
Hospital	2,804	3,099	3,291	3,478	3,791	2,703	2,875	2,940	3,036	3,193
Other ¹	17,177	17,480	19,199	20,919	22,476	16,567	16,195	17,153	18,255	18,926
Highways and streets	33,961	36,991	38,190	40,875	44,817	33,827	35,805	35,020	36,157	38,281
Conservation and development . .	1,719	1,988	2,201	2,167	2,296	1,670	1,872	1,997	1,922	1,964
Sewer systems	8,863	8,700	9,435	10,433	10,463	8,622	8,199	8,557	9,260	8,951
Water supply facilities	5,085	4,647	5,283	5,964	6,339	4,868	4,237	4,695	5,187	5,393
Miscellaneous nonbuilding ²	9,043	9,125	10,140	10,097	11,364	8,890	8,719	9,252	8,954	9,719
Federal construction	14,424	14,440	15,751	15,368	14,281	14,027	13,569	14,214	13,519	12,109
Total buildings	5,695	5,142	6,043	6,230	6,106	5,490	4,755	5,390	5,430	5,136
Housing	236	446	576	681	677	225	406	503	585	565
Industrial	1,718	1,465	1,508	1,389	998	1,658	1,358	1,348	1,214	842
Educational	21	26	27	12	19	20	24	24	11	16
Hospital	906	851	1,041	1,159	1,251	875	789	931	1,013	1,053
Other ³	2,814	2,354	2,891	2,989	3,161	2,713	2,178	2,584	2,608	2,659
Highways and streets	338	428	308	368	380	336	414	283	325	325
Military facilities	2,453	2,318	3,011	2,634	2,620	2,405	2,196	2,728	2,317	2,223
Conservation and development . .	4,217	4,376	4,167	3,845	3,362	4,102	4,124	3,781	3,412	2,877
Miscellaneous public ⁴	1,722	2,176	2,223	2,291	1,812	1,693	2,080	2,032	2,034	1,548

NA Not available, but estimates are included in totals.

¹Includes general administrative buildings, prisons, police and fire stations, courthouses, passenger terminals, civic centers, etc.²Includes open amusement and recreational facilities, power generating facilities, transit systems, airfields, open parking facilities, etc.³Includes federal office buildings, prisons, courthouses, space facilities, postal facilities, etc.⁴Includes federal airport facilities, fish and wildlife preservation facilities, VA cemeteries, etc.

Table 3. Monthly Value of Construction Put in Place—Not Seasonally Adjusted in Current Dollars

[Millions of dollars]

Period	Total construction	Private construction																All other private ⁵
		Total ¹	Residential buildings					Nonresidential buildings								Public utilities ⁴		
			Total ²	New housing units			Total	Industrial	Office	Hotels, motels	Other commercial	Religious	Educational	Hospital and institutional	Miscellaneous ³	Total	Telecommunications	
				Total	1 unit	2 units or more												
YEAR TO DATE																		
September 1997	458,830	349,504	197,279	138,114	121,444	16,670	122,676	23,425	24,085	9,541	38,033	4,123	6,273	10,240	6,957	(NA)	8,486	1,640
September 1998	482,747	374,022	218,178	154,502	136,608	17,894	124,645	22,282	27,653	10,232	36,237	4,564	7,026	9,930	6,722	(NA)	(NA)	1,793
Percent change	5	7	11	12	12	7	2	-5	15	7	-5	11	12	-3	-3	(NA)	(NA)	9
MONTHLY DATA																		
1996: September	56,513	41,913	24,445	17,074	15,381	1,693	13,908	2,914	2,594	994	4,644	425	650	1,045	643	(NA)	949	199
October	55,820	42,209	24,092	16,694	14,961	1,733	14,408	3,219	2,589	1,000	4,748	439	634	1,068	711	(NA)	1,110	223
November	52,175	40,092	22,695	15,955	14,217	1,738	13,927	2,993	2,614	1,002	4,433	452	617	1,100	716	(NA)	1,113	187
December	45,436	35,480	19,093	13,406	11,826	1,581	13,114	2,823	2,507	1,050	3,962	430	560	1,104	678	(NA)	1,251	176
1997: January	40,440	31,726	16,992	12,255	10,781	1,474	12,164	2,436	2,440	938	3,734	367	528	1,067	655	(NA)	795	152
February	39,927	31,068	16,412	11,986	10,286	1,700	12,385	2,464	2,580	972	3,715	379	531	1,086	659	(NA)	771	141
March	44,448	34,546	19,268	13,987	12,239	1,747	12,584	2,329	2,468	1,014	3,850	439	544	1,169	769	(NA)	854	164
April	48,594	37,593	21,225	14,800	12,979	1,822	13,112	2,482	2,469	1,040	4,009	461	663	1,190	797	(NA)	975	179
May	52,329	40,089	23,253	15,900	13,819	2,081	13,556	2,522	2,556	1,140	4,228	485	703	1,112	810	(NA)	946	179
June	55,788	42,172	24,501	16,589	14,594	1,995	14,009	2,632	2,728	1,130	4,394	445	803	1,098	780	(NA)	994	192
July	57,921	43,454	25,044	17,209	15,337	1,872	14,601	2,784	2,881	1,120	4,607	478	848	1,075	808	(NA)	1,070	199
August	59,902	44,679	25,596	17,648	15,646	2,002	15,105	2,881	2,984	1,110	4,759	498	847	1,195	831	(NA)	995	225
September	59,480	44,176	24,987	17,739	15,762	1,977	15,160	2,894	2,978	1,077	4,737	572	806	1,247	849	(NA)	1,087	209
October	58,365	43,856	24,847	17,641	15,506	2,136	14,968	2,789	3,073	1,109	4,607	604	767	1,192	827	(NA)	1,120	244
November	53,508	41,047	23,395	16,823	14,889	1,934	14,040	2,566	2,908	1,052	4,224	591	718	1,190	791	(NA)	965	214
December	47,514	36,751	20,089	14,497	12,606	1,891	13,462	2,614	2,751	1,049	3,899	567	679	1,120	782	(NA)	1,056	159
1998: January	42,419	33,440	18,345	13,464	11,644	1,819	12,316	2,306	2,801	994	3,406	482	647	1,049	632	(NA)	795	181
February	41,199	32,338	17,568	12,974	11,111	1,864	12,244	2,297	2,657	987	3,409	484	673	1,081	657	(NA)	874	160
March	46,531	36,887	20,909	15,408	13,442	1,966	12,910	2,489	2,764	1,015	3,662	476	733	1,079	692	(NA)	1,074	177
April	51,265	40,295	23,187	16,460	14,417	2,043	13,755	2,511	3,027	1,106	3,894	476	791	1,147	803	(NA)	982	176
May	54,292	42,602	25,162	17,346	15,329	2,017	13,959	2,478	3,198	1,072	4,086	447	820	1,114	745	(NA)	1,020	199
June	59,690	45,890	27,155	18,685	16,634	2,051	14,838	2,603	3,333	1,235	4,426	507	845	1,099	789	(NA)	1,064	215
July ^f	61,382	47,022	28,452	19,793	17,738	2,055	14,685	2,401	3,242	1,259	4,543	536	812	1,088	804	(NA)	1,038	214
August ^f	63,039	48,092	29,007	20,144	18,124	2,020	14,990	2,626	3,250	1,299	4,445	571	878	1,138	783	(NA)	1,038	230
September ^p	62,930	47,455	28,393	20,228	18,170	2,059	14,949	2,570	3,381	1,265	4,366	586	827	1,136	817	(NA)	(NA)	242
PERCENT CHANGE																		
August 1998-September 1998	(Z)	-1	-2	(Z)	(Z)	2	(Z)	-2	4	-3	-2	3	-6	(Z)	4	(NA)	(NA)	5

See footnotes at end of table.

Table 3. Monthly Value of Construction Put in Place—Not Seasonally Adjusted in Current Dollars—Con.

[Millions of dollars]

Period	Public construction												
	Total	Buildings						Highways and streets	Military facilities	Conservation and development	Sewer systems	Water supply facilities	Miscellaneous public ⁷
		Total	Housing and redevelopment	Industrial	Educational	Hospital	Other public buildings ⁶						
YEAR TO DATE													
September 1997	109,325	47,511	3,532	807	20,531	3,801	18,839	33,257	1,972	4,347	7,838	4,654	9,746
September 1998	108,725	47,999	3,491	749	20,694	2,935	20,130	33,037	2,086	4,289	7,552	4,780	8,981
Percent change	-1	1	-1	-7	1	-23	7	-1	6	-1	-4	3	-8
MONTHLY DATA													
1996: September	14,601	5,729	478	184	2,350	459	2,258	4,906	284	884	975	552	1,271
October	13,612	5,266	443	60	2,207	386	2,171	4,939	179	433	1,107	685	1,003
November	12,084	5,296	443	91	2,161	351	2,251	3,570	207	494	948	559	1,009
December	9,956	4,813	371	88	1,893	418	2,043	2,595	204	401	762	474	708
1997: January	8,714	4,475	340	89	1,796	396	1,854	1,821	202	418	680	426	692
February	8,859	4,474	344	79	1,809	388	1,854	1,877	173	390	687	442	816
March	9,902	4,803	351	88	1,979	390	1,996	2,218	195	459	783	519	925
April	11,001	5,035	381	112	2,070	428	2,044	3,084	190	430	828	494	940
May	12,240	5,116	421	74	2,181	379	2,061	3,868	220	452	934	520	1,130
June	13,616	5,682	399	95	2,585	437	2,166	4,600	227	444	978	533	1,151
July	14,467	5,877	420	92	2,736	449	2,180	5,082	239	469	955	577	1,270
August	15,222	5,984	409	80	2,858	410	2,228	5,500	248	521	963	556	1,451
September	15,304	6,065	469	98	2,517	525	2,456	5,206	279	764	1,031	587	1,372
October	14,510	5,874	528	56	2,428	467	2,396	5,044	205	405	992	616	1,374
November	12,460	5,253	430	65	2,069	411	2,277	4,030	242	417	882	579	1,057
December	10,763	4,965	371	70	2,036	362	2,125	2,866	201	490	751	491	1,000
1998: January	8,980	4,581	361	75	1,839	328	1,979	1,943	198	352	689	426	791
February	8,861	4,559	357	78	1,807	302	2,014	1,864	197	428	656	447	711
March	9,644	4,746	381	94	1,850	367	2,053	2,225	244	412	741	467	809
April	10,970	5,085	380	84	2,096	294	2,230	3,067	215	393	778	533	900
May	11,689	5,170	360	80	2,191	333	2,207	3,597	215	436	770	538	963
June	13,800	5,833	401	77	2,668	332	2,355	4,610	226	520	919	532	1,159
July ^f	14,359	6,042	435	85	2,841	301	2,380	4,859	291	479	932	604	1,152
August ^f	14,948	6,031	394	87	2,815	304	2,431	5,382	236	500	980	584	1,234
September ^p	15,475	5,951	421	89	2,588	374	2,479	5,490	264	770	1,088	649	1,263
PERCENT CHANGE													
August 1998-September 1998	4	-1	7	2	-8	23	2	2	12	54	11	11	2

NA Not available, but estimates are included in totals. ^pPreliminary. ^rRevised. Z Less than 0.5 percent.

¹Includes farm nonresidential and other private categories, not shown separately. ²Includes residential improvements, not shown separately. ³Includes amusement and recreational buildings, bus and airline terminals, animal hospitals and shelters, etc. ⁴Includes gas, electric, railroad, and petroleum pipelines, not shown separately. ⁵Includes privately owned streets and bridges, parking areas, sewer and water facilities, parks and playgrounds, golf courses, airfields, etc. ⁶Includes general administrative buildings, prisons, police and fire stations, courthouses, civic centers, passenger terminals, space facilities, postal facilities, etc. ⁷Includes open amusement and recreational facilities, power generating facilities, transit systems, airfields, open parking facilities, etc.

Table 4. Monthly Value of Construction Put in Place—Seasonally Adjusted Annual Rate in Current Dollars

[Millions of dollars]

Period		Total construction	Private construction															All other private ⁵	
			Total ¹	Residential buildings						Nonresidential buildings							Public utilities ⁴		
				Total ²	New housing units			Total	Industrial	Office	Hotels, motels	Other commercial	Religious	Educational	Hospital and institutional	Miscellaneous ³	Total		Telecommunications
					Total	1 unit	2 units or more												
1996:	September	593,691	452,940	260,283	180,668	161,338	19,330	154,087	33,108	29,558	11,735	48,502	4,553	7,188	12,134	7,309	(NA)	11,363	2,169
	October	598,301	459,013	259,797	180,249	160,440	19,809	159,899	35,275	30,168	11,794	50,596	4,468	7,447	12,234	7,919	(NA)	11,799	2,318
	November	605,105	462,431	260,599	180,599	159,890	20,709	162,412	34,729	30,725	12,224	50,954	5,019	7,960	12,652	8,149	(NA)	12,783	2,104
	December	599,884	461,449	259,498	179,773	159,805	19,968	161,077	32,329	31,014	12,740	50,366	5,018	7,829	13,337	8,444	(NA)	14,272	2,213
1997:	January	602,124	461,235	259,048	179,657	159,322	20,335	165,061	32,618	31,522	12,693	53,149	4,964	7,615	13,523	8,977	(NA)	11,194	2,046
	February	618,393	470,198	264,424	185,506	162,199	23,307	169,227	33,182	33,541	12,636	54,042	5,251	7,754	13,828	8,992	(NA)	11,114	2,071
	March	617,245	465,958	264,871	185,656	163,372	22,284	163,376	30,215	31,477	12,209	52,505	5,816	7,404	14,480	9,269	(NA)	11,096	2,204
	April	613,239	466,886	266,145	186,987	164,635	22,352	161,135	30,207	29,691	12,072	51,128	5,844	8,496	14,439	9,258	(NA)	11,766	2,285
	May	610,761	466,260	265,791	187,009	163,543	23,465	161,046	30,572	29,868	12,740	50,679	6,034	8,252	13,144	9,757	(NA)	11,337	2,228
	June	611,646	465,174	262,893	184,492	162,301	22,191	161,757	31,122	31,903	12,840	49,930	5,629	8,182	13,016	9,136	(NA)	11,622	2,254
	July	620,506	473,292	263,156	184,675	163,163	21,513	168,474	32,726	33,895	13,327	51,816	5,690	8,249	13,220	9,550	(NA)	12,112	2,223
	August	623,429	475,498	263,496	185,126	163,122	22,004	170,033	33,403	34,106	13,425	51,351	5,707	8,492	13,873	9,676	(NA)	11,432	2,442
	September	623,305	475,885	266,077	187,791	165,194	22,597	167,326	32,220	34,000	12,551	49,473	6,005	8,936	14,491	9,651	(NA)	12,322	2,286
	October	626,608	477,539	268,623	190,861	166,432	24,429	166,404	30,870	35,215	13,325	48,623	6,368	9,135	13,660	9,209	(NA)	11,975	2,509
	November	623,068	475,340	268,893	190,810	167,761	23,049	164,810	30,075	34,443	12,793	49,158	6,441	9,176	13,691	9,033	(NA)	11,624	2,396
	December	626,290	478,363	273,020	194,627	170,739	23,889	164,948	29,794	33,857	12,665	49,357	6,552	9,440	13,550	9,733	(NA)	11,702	2,003
1998:	January	633,714	487,807	278,956	197,151	172,085	25,066	167,636	31,055	36,853	13,082	48,954	6,399	9,325	13,294	8,676	(NA)	11,604	2,446
	February	638,180	490,896	282,496	200,582	175,198	25,384	166,962	30,936	34,624	12,723	49,528	6,661	9,846	13,709	8,935	(NA)	12,614	2,351
	March	639,913	494,333	286,045	203,633	178,825	24,808	165,449	31,474	34,661	12,182	49,320	6,145	9,900	13,401	8,366	(NA)	13,234	2,382
	April	645,974	500,078	289,666	206,872	182,108	24,764	169,415	31,457	36,618	12,725	49,446	6,079	9,909	13,869	9,311	(NA)	11,915	2,265
	May	635,396	496,495	288,003	204,335	181,412	22,923	166,324	29,642	37,144	12,683	49,177	5,775	9,691	13,223	8,989	(NA)	12,722	2,437
	June	650,341	503,592	291,907	207,976	184,997	22,979	169,627	30,067	38,417	13,747	50,063	6,256	8,685	13,163	9,230	(NA)	11,828	2,470
	July ^f	657,710	510,650	299,196	212,533	188,869	23,665	169,085	28,588	37,521	15,063	50,478	6,579	8,041	13,377	9,439	(NA)	11,957	2,433
	August ^f	657,834	511,655	299,471	212,079	189,613	22,466	169,171	31,020	37,494	15,090	48,096	6,396	8,747	13,176	9,151	(NA)	12,079	2,497
	September ^p	660,643	511,730	302,725	214,454	190,924	23,530	166,004	28,092	38,497	15,018	46,318	6,322	9,296	13,146	9,315	(NA)	(NA)	2,628
PERCENT CHANGE																			
August 1998-	September 1998	(Z)	(Z)	1	1	1	5	-2	-9	3	(Z)	-4	-1	6	(Z)	2	(NA)	(NA)	5

See footnotes at end of table.

Table 4. Monthly Value of Construction Put in Place—Seasonally Adjusted Annual Rate in Current Dollars—Con.

[Millions of dollars]

Period		Public construction												
		Total	Buildings						Highways and streets	Military facilities	Conservation and development	Sewer systems	Water supply facilities	Miscellaneous public ⁷
			Total	Housing and redevelopment	Industrial	Educational	Hospital	Other public buildings ⁶						
1996:	September	140,751	60,972	4,940	1,661	24,911	4,786	24,674	41,814	2,761	7,008	10,033	6,092	12,071
	October	139,288	59,847	4,825	864	25,493	4,373	24,292	41,799	2,576	5,776	11,293	6,918	11,079
	November	142,673	63,422	5,123	1,092	27,118	4,249	25,841	42,374	2,296	6,025	10,648	6,129	11,779
	December	138,435	62,647	4,637	1,068	26,287	5,006	25,649	42,593	2,360	5,270	10,103	5,965	9,499
1997:	January	140,889	61,889	4,386	1,112	26,096	5,118	25,177	43,023	2,486	6,105	9,954	6,358	11,074
	February	148,195	63,515	4,773	1,071	26,831	5,185	25,654	46,066	2,552	5,785	10,761	6,616	12,899
	March	151,288	64,603	4,572	1,059	27,476	4,923	26,573	46,287	2,364	6,169	10,923	7,344	13,598
	April	146,354	63,548	4,814	1,405	27,148	5,046	25,135	46,379	2,431	5,358	10,632	6,281	11,726
	May	144,500	60,852	4,821	839	26,764	4,790	23,639	45,068	2,580	5,328	11,167	6,096	13,410
	June	146,472	63,285	4,794	1,100	27,751	5,068	24,571	45,287	2,729	5,195	11,062	6,031	12,884
	July	147,213	63,810	4,957	1,136	27,184	5,147	25,386	44,738	2,880	5,299	10,589	6,324	13,574
	August	147,931	63,209	4,927	992	26,714	5,061	25,515	45,930	2,812	5,479	10,099	6,090	14,312
	September	147,421	64,017	4,807	876	26,579	5,259	26,496	44,309	2,630	6,180	10,484	6,458	13,343
	October	149,069	66,570	5,717	775	27,962	5,487	26,628	43,144	2,806	5,148	10,141	6,194	15,067
	November	147,728	63,586	4,968	834	25,864	5,087	26,833	47,416	2,889	5,068	10,005	6,342	12,423
	December	147,927	64,511	4,610	819	28,242	4,251	26,590	45,306	2,342	6,422	9,740	6,211	13,395
1998:	January	145,907	63,283	4,642	949	26,647	4,362	26,683	46,067	2,474	5,281	10,060	6,301	12,440
	February	147,284	64,520	4,963	1,042	26,765	4,033	27,717	45,561	2,916	6,305	10,150	6,665	11,167
	March	145,580	62,930	4,931	1,189	25,759	4,518	26,534	45,559	2,818	5,488	10,388	6,612	11,785
	April	145,896	63,934	4,809	1,010	27,311	3,610	27,194	46,175	2,850	4,985	9,874	6,726	11,352
	May	138,901	62,097	4,240	944	26,988	4,115	25,809	42,030	2,471	5,146	9,411	6,319	11,428
	June	146,749	64,405	4,898	893	28,332	3,793	26,489	44,541	2,659	5,989	10,290	6,092	12,773
	July ^f	147,060	65,228	5,041	1,007	28,044	3,576	27,560	43,776	3,309	5,445	10,336	6,653	12,312
	August ^f	146,180	64,050	4,748	1,057	26,537	3,786	27,921	44,757	2,912	5,370	10,389	6,449	12,254
	September ^p	148,913	63,563	4,433	812	27,429	3,700	27,189	46,364	2,513	6,040	10,962	7,095	12,375
PERCENT CHANGE														
	August 1998-September 1998	2	-1	-7	-23	3	-2	-3	4	-14	12	6	10	1

NA Not available, but estimates are included in totals. ^pPreliminary. ^rRevised. Z Less than 0.5 percent.

¹Includes farm nonresidential and other private categories, not shown separately. ²Includes residential improvements, not shown separately. ³Includes amusement and recreational buildings, bus and airline terminals, animal hospitals and shelters, etc. ⁴Includes gas, electric, railroad, and petroleum pipelines, not shown separately. ⁵Includes privately owned streets and bridges, parking areas, sewer and water facilities, parks and playgrounds, golf courses, airfields, etc. ⁶Includes general administrative buildings, prisons, police and fire stations, courthouses, civic centers, passenger terminals, space facilities, postal facilities, etc. ⁷Includes open amusement and recreational facilities, power generating facilities, transit systems, airfields, open parking facilities, etc.

Table 5. Monthly Value of Construction Put in Place—Seasonally Adjusted Annual Rate in 1992 Dollars

[Millions of dollars]

Period		Total construction	Private construction																All other private ⁵	
			Total ¹	Residential buildings					Nonresidential buildings									Public utilities ⁴		
				Total ²	New housing units			Total	Industrial	Office	Hotels, motels	Other commercial	Religious	Educational	Hospital and institutional	Miscellaneous ³	Total	Telecommunications		
					Total	1 unit	2 units or more													
1996:	September	511,402	388,735	221,706	153,891	137,426	16,465	133,408	28,665	25,591	10,161	41,993	3,942	6,223	10,505	6,328	(NA)	9,796	1,904	
	October	514,694	393,365	220,916	153,273	136,428	16,845	138,201	30,488	26,074	10,193	43,730	3,862	6,436	10,574	6,845	(NA)	10,163	2,037	
	November	520,216	395,849	221,221	153,310	135,730	17,579	140,253	29,991	26,533	10,556	44,002	4,334	6,874	10,926	7,037	(NA)	11,029	1,852	
	December	514,435	394,097	219,913	152,350	135,428	16,922	138,620	27,822	26,691	10,964	43,344	4,318	6,738	11,477	7,266	(NA)	12,293	1,945	
1997:	January	513,991	392,318	218,606	151,610	134,449	17,160	141,440	27,951	27,011	10,876	45,543	4,253	6,526	11,588	7,693	(NA)	9,642	1,781	
	February	528,124	400,280	223,331	156,677	136,992	19,685	145,134	28,458	28,766	10,837	46,348	4,503	6,650	11,859	7,712	(NA)	9,598	1,795	
	March	524,731	395,280	223,520	156,672	137,867	18,805	139,162	25,737	26,812	10,400	44,724	4,954	6,307	12,334	7,895	(NA)	9,525	1,892	
	April	520,008	395,188	224,216	157,529	138,698	18,831	136,903	25,664	25,226	10,257	43,439	4,965	7,218	12,267	7,866	(NA)	10,048	1,955	
	May	516,277	393,421	223,354	157,150	137,431	19,719	136,249	25,865	25,269	10,778	42,876	5,105	6,981	11,121	8,254	(NA)	9,649	1,903	
	June	516,020	391,518	219,994	154,387	135,817	18,569	136,735	26,308	26,968	10,854	42,206	4,758	6,916	11,003	7,723	(NA)	9,900	1,927	
	July	521,567	396,673	219,297	153,896	135,969	17,927	141,574	27,500	28,483	11,199	43,543	4,782	6,932	11,109	8,025	(NA)	10,335	1,901	
	August	522,516	397,214	218,850	153,759	135,483	18,276	142,287	27,952	28,541	11,234	42,971	4,776	7,106	11,609	8,097	(NA)	9,763	2,089	
	September	521,015	396,281	220,080	155,328	136,637	18,690	139,671	26,895	28,380	10,477	41,296	5,013	7,459	12,096	8,056	(NA)	10,531	1,956	
	October	522,495	396,848	221,636	157,476	137,320	20,156	138,785	25,747	29,370	11,113	40,553	5,311	7,618	11,392	7,681	(NA)	10,201	2,137	
	November	517,415	393,757	221,676	157,304	138,303	19,002	136,659	24,938	28,560	10,608	40,761	5,341	7,608	11,353	7,490	(NA)	9,826	2,027	
	December	520,118	396,351	225,264	160,584	140,873	19,710	136,773	24,705	28,074	10,502	40,926	5,433	7,828	11,235	8,071	(NA)	9,867	1,695	
1998:	January	526,820	404,647	230,923	163,205	142,454	20,750	138,886	25,729	30,532	10,838	40,559	5,301	7,725	11,014	7,188	(NA)	9,719	2,071	
	February	530,916	407,376	234,048	166,183	145,152	21,031	138,328	25,631	28,686	10,541	41,034	5,519	8,157	11,358	7,402	(NA)	10,547	1,998	
	March	531,649	409,635	236,792	168,570	148,034	20,536	136,735	26,012	28,645	10,068	40,760	5,078	8,182	11,075	6,914	(NA)	11,038	2,024	
	April	535,864	413,629	239,393	170,968	150,503	20,466	139,551	25,912	30,163	10,482	40,730	5,008	8,163	11,424	7,670	(NA)	9,979	1,927	
	May	526,184	410,055	237,822	168,732	149,803	18,929	136,555	24,337	30,496	10,413	40,375	4,742	7,957	10,856	7,380	(NA)	10,664	2,070	
	June	536,331	414,055	239,858	170,892	152,011	18,882	138,698	24,585	31,412	11,240	40,935	5,115	7,101	10,763	7,547	(NA)	9,898	2,090	
	July ^f	540,980	418,706	245,041	174,065	154,683	19,382	137,916	23,318	30,604	12,286	41,173	5,366	6,559	10,911	7,699	(NA)	10,015	2,055	
	August ^f	539,582	418,603	245,066	173,551	155,166	18,385	137,426	25,199	30,458	12,258	39,071	5,196	7,105	10,703	7,434	(NA)	10,066	2,098	
	September ^p	540,182	417,319	246,921	174,922	155,729	19,193	134,416	22,746	31,171	12,161	37,505	5,119	7,527	10,644	7,542	(NA)	(NA)	2,199	
PERCENT CHANGE																				
August 1998-																				
September 1998		(Z)	(Z)	1	1	(Z)	4	-2	-10	2	-1	-4	-1	6	-1	1	(NA)	(NA)	5	

See footnotes at end of table.

Table 5. Monthly Value of Construction Put in Place—Seasonally Adjusted Annual Rate in 1992 Dollars—Con.

[Millions of dollars]

Period		Public construction												
		Total	Buildings						Highways and streets	Military facilities	Conservation and development	Sewer systems	Water supply facilities	Miscellaneous public ⁷
			Total	Housing and redevelopment	Industrial	Educational	Hospital	Other public buildings ⁶						
1996:	September	122,667	52,721	4,208	1,438	21,568	4,143	21,363	36,744	2,409	6,142	8,793	5,260	10,598
	October	121,329	51,659	4,103	747	22,034	3,780	20,996	36,763	2,246	5,067	9,906	5,954	9,735
	November	124,367	54,694	4,349	943	23,418	3,669	22,315	37,367	2,003	5,299	9,365	5,270	10,369
	December	120,338	53,852	3,930	919	22,622	4,308	22,073	37,493	2,054	4,623	8,862	5,107	8,347
1997:	January	121,673	52,975	3,701	953	22,361	4,385	21,574	37,542	2,151	5,295	8,633	5,439	9,638
	February	127,845	54,410	4,032	919	23,011	4,447	22,002	40,092	2,206	4,996	9,293	5,670	11,178
	March	129,451	54,992	3,859	902	23,404	4,193	22,635	39,902	2,025	5,272	9,336	6,251	11,672
	April	124,820	53,957	4,055	1,194	23,066	4,287	21,355	39,776	2,074	4,575	9,079	5,327	10,030
	May	122,855	51,455	4,051	710	22,643	4,052	19,999	38,519	2,194	4,546	9,528	5,162	11,451
	June	124,502	53,454	4,012	930	23,458	4,284	20,770	38,707	2,318	4,441	9,455	5,115	11,012
	July	124,894	53,587	4,131	954	22,844	4,326	21,333	38,303	2,442	4,525	9,043	5,382	11,611
	August	125,302	52,864	4,092	830	22,355	4,235	21,351	39,324	2,381	4,679	8,625	5,187	12,243
	September	124,734	53,400	3,976	732	22,186	4,390	22,117	37,968	2,223	5,273	8,945	5,510	11,414
	October	125,647	55,470	4,717	646	23,321	4,577	22,209	36,624	2,360	4,403	8,675	5,281	12,834
	November	123,658	52,701	4,096	691	21,446	4,218	22,250	39,812	2,412	4,320	8,529	5,374	10,510
	December	123,767	53,473	3,804	679	23,418	3,525	22,048	37,945	1,952	5,484	8,318	5,264	11,332
1998:	January	122,173	52,427	3,843	786	22,077	3,614	22,107	38,744	2,065	4,506	8,583	5,313	10,534
	February	123,540	53,455	4,112	863	22,175	3,341	22,964	38,480	2,438	5,389	8,675	5,615	9,488
	March	122,014	52,015	4,082	982	21,289	3,734	21,929	38,511	2,356	4,686	8,871	5,561	10,012
	April	122,235	52,677	3,974	832	22,496	2,974	22,401	39,165	2,383	4,253	8,425	5,671	9,661
	May	116,129	51,002	3,501	775	22,158	3,378	21,190	35,649	2,063	4,376	8,002	5,328	9,709
	June	122,277	52,682	4,025	730	23,166	3,101	21,659	37,683	2,210	5,067	8,705	5,123	10,806
	July ^f	122,275	53,221	4,129	821	22,875	2,917	22,480	36,973	2,746	4,603	8,737	5,596	10,399
	August ^f	120,979	52,059	3,886	859	21,558	3,075	22,681	37,579	2,404	4,512	8,730	5,397	10,297
	September ^p	122,862	51,494	3,616	657	22,210	2,996	22,015	38,799	2,069	5,054	9,173	5,917	10,356
PERCENT CHANGE														
	August 1998-September 1998	2	-1	-7	-24	3	-3	-3	3	-14	12	5	10	1

NA Not available, but estimates are included in totals. ^pPreliminary. ^rRevised. Z Less than 0.5 percent.

¹Includes farm nonresidential and other private categories, not shown separately. ²Includes residential improvements, not shown separately. ³Includes amusement and recreational buildings, bus and airline terminals, animal hospitals and shelters, etc. ⁴Includes gas, electric, railroad, and petroleum pipelines, not shown separately. ⁵Includes privately owned streets and bridges, parking areas, sewer and water facilities, parks and playgrounds, golf courses, airfields, etc. ⁶Includes general administrative buildings, prisons, police and fire stations, courthouses, civic centers, passenger terminals, space facilities, postal facilities, etc. ⁷Includes open amusement and recreational facilities, power generating facilities, transit systems, airfields, open parking facilities, etc.

Table 6. Monthly Value of Construction Put in Place—Not Seasonally Adjusted in 1992 Dollars

[Millions of dollars]

Period	Total construction	Private construction																All other private ⁵	
		Total ¹	Residential buildings					Nonresidential buildings									Public utilities ⁴		
			Total ²	New housing units			Total	Industrial	Office	Hotels, motels	Other commercial	Religious	Educational	Hospital and institutional	Miscellaneous ³	Total	Telecommunications		
				Total	1 unit	2 units or more													
YEAR TO DATE																			
September 1997	387,541	294,422	165,183	115,652	101,687	13,965	103,780	19,819	20,377	8,075	32,170	3,485	5,304	8,666	5,886	(NA)	7,257	1,407	
September 1998	398,595	308,004	179,502	127,124	112,390	14,731	102,198	18,276	22,672	8,389	29,706	3,742	5,760	8,145	5,512	(NA)	(NA)	1,516	
Percent change	3	5	9	10	11	5	-2	-8	11	4	-8	7	9	-6	-6	(NA)	(NA)	8	
MONTHLY DATA																			
1996: September	48,701	35,968	20,822	14,543	13,101	1,442	12,041	2,523	2,246	860	4,021	368	563	904	557	(NA)	818	175	
October	48,037	36,170	20,487	14,196	12,722	1,474	12,453	2,782	2,238	864	4,103	379	548	923	615	(NA)	956	196	
November	44,852	34,318	19,265	13,544	12,069	1,475	12,027	2,584	2,258	866	3,828	390	533	950	619	(NA)	960	165	
December	38,959	30,312	16,181	11,361	10,022	1,340	11,286	2,430	2,157	904	3,410	370	482	950	583	(NA)	1,078	155	
1997: January	34,509	26,996	14,339	10,342	9,098	1,244	10,424	2,087	2,091	804	3,199	314	452	914	561	(NA)	685	132	
February	34,091	26,459	13,861	10,123	8,688	1,435	10,622	2,113	2,213	834	3,186	325	455	931	566	(NA)	665	122	
March	37,773	29,308	16,260	11,803	10,329	1,475	10,719	1,984	2,102	864	3,280	374	464	996	655	(NA)	733	141	
April	41,202	31,823	17,882	12,469	10,934	1,535	11,140	2,109	2,098	884	3,406	391	564	1,011	677	(NA)	832	153	
May	44,229	33,823	19,540	13,361	11,613	1,748	11,468	2,134	2,163	965	3,577	410	595	941	685	(NA)	805	153	
June	47,066	35,490	20,503	13,882	12,212	1,670	11,842	2,225	2,306	955	3,714	376	679	928	659	(NA)	846	164	
July	48,695	36,414	20,870	14,341	12,781	1,560	12,270	2,340	2,421	941	3,872	401	713	904	679	(NA)	913	170	
August	50,226	37,321	21,260	14,658	12,995	1,663	12,640	2,411	2,497	929	3,982	417	709	1,000	695	(NA)	849	193	
September	49,750	36,788	20,668	14,673	13,037	1,635	12,655	2,416	2,486	899	3,954	477	673	1,041	709	(NA)	929	179	
October	48,684	36,445	20,501	14,556	12,794	1,762	12,484	2,326	2,563	925	3,842	504	640	994	690	(NA)	954	208	
November	44,432	34,000	19,287	13,869	12,274	1,595	11,642	2,128	2,411	872	3,502	490	595	987	656	(NA)	816	181	
December	39,457	30,453	16,575	11,962	10,401	1,560	11,162	2,168	2,281	870	3,233	470	563	929	648	(NA)	890	135	
1998: January	35,250	27,738	15,186	11,146	9,639	1,506	10,204	1,910	2,320	824	2,822	399	536	869	524	(NA)	666	153	
February	34,253	26,830	14,555	10,749	9,205	1,544	10,144	1,903	2,202	818	2,825	401	557	895	544	(NA)	730	136	
March	38,634	30,562	17,309	12,755	11,127	1,627	10,669	2,057	2,284	839	3,026	393	606	892	572	(NA)	896	150	
April	42,515	33,331	19,163	13,603	11,915	1,688	11,330	2,069	2,493	911	3,207	392	652	944	662	(NA)	822	150	
May	44,959	35,185	20,778	14,324	12,658	1,666	11,460	2,034	2,625	880	3,355	367	673	915	612	(NA)	855	169	
June	49,242	37,737	22,313	15,353	13,668	1,685	12,132	2,129	2,725	1,010	3,619	414	691	899	645	(NA)	890	182	
July ^f	50,509	38,560	23,302	16,210	14,527	1,683	11,978	1,959	2,645	1,027	3,706	437	662	887	656	(NA)	870	181	
August ^f	51,740	39,354	23,737	16,484	14,831	1,653	12,177	2,134	2,640	1,055	3,611	464	713	924	636	(NA)	865	193	
September ^p	51,493	38,707	23,159	16,500	14,820	1,679	12,104	2,081	2,738	1,025	3,535	475	670	920	661	(NA)	(NA)	202	
PERCENT CHANGE																			
August 1998- September 1998	(Z)	-2	-2	(Z)	(Z)	2	-1	-2	4	-3	-2	2	-6	(Z)	4	(NA)	(NA)	5	

See footnotes at end of table.

Table 6. Monthly Value of Construction Put in Place—Not Seasonally Adjusted in 1992 Dollars—Con.

[Millions of dollars]

Period	Public construction												
	Total	Buildings						Highways and streets	Military facilities	Conservation and development	Sewer systems	Water supply facilities	Miscellaneous public ⁷
		Total	Housing and redevelopment	Industrial	Educational	Hospital	Other public buildings ⁶						
YEAR TO DATE													
September 1997	93,121	40,152	2,958	682	17,356	3,215	15,936	28,539	1,682	3,721	6,709	3,962	8,357
September 1998	90,589	39,355	2,873	614	16,955	2,408	16,504	27,858	1,734	3,633	6,399	4,017	7,592
Percent change	-3	-2	-3	-10	-2	-25	4	-2	3	-2	-5	1	-9
MONTHLY DATA													
1996: September	12,734	4,953	407	160	2,035	398	1,955	4,311	248	775	854	477	1,116
October	11,867	4,546	377	52	1,907	334	1,877	4,344	156	380	971	589	881
November	10,534	4,567	376	78	1,866	303	1,944	3,148	181	435	834	481	888
December	8,647	4,137	315	75	1,629	360	1,759	2,284	178	352	668	406	622
1997: January	7,513	3,830	287	76	1,539	339	1,588	1,589	175	363	590	364	602
February	7,631	3,833	290	68	1,551	333	1,590	1,634	149	336	593	379	707
March	8,465	4,089	296	75	1,686	332	1,700	1,912	167	392	669	442	794
April	9,379	4,275	321	95	1,759	363	1,737	2,645	162	367	707	419	804
May	10,407	4,326	354	62	1,845	321	1,744	3,306	187	385	797	440	965
June	11,577	4,800	333	80	2,185	369	1,831	3,932	193	380	836	452	984
July	12,282	4,935	350	77	2,299	377	1,832	4,351	203	401	815	491	1,086
August	12,905	5,005	339	67	2,391	343	1,864	4,709	210	445	822	474	1,241
September	12,962	5,059	388	82	2,101	438	2,050	4,461	236	652	880	501	1,174
October	12,239	4,895	435	46	2,025	390	1,998	4,282	172	346	849	525	1,170
November	10,432	4,353	355	54	1,716	341	1,888	3,384	202	356	752	491	894
December	9,004	4,116	306	58	1,688	300	1,762	2,400	168	418	641	416	846
1998: January	7,512	3,795	299	62	1,523	271	1,639	1,634	165	300	588	360	670
February	7,423	3,777	296	65	1,497	250	1,669	1,574	165	366	560	377	604
March	8,072	3,923	316	78	1,529	303	1,697	1,881	204	352	633	393	687
April	9,184	4,190	314	69	1,727	243	1,837	2,601	179	335	663	449	766
May	9,774	4,246	297	65	1,799	274	1,812	3,051	179	371	655	453	818
June	11,505	4,771	330	63	2,181	271	1,926	3,900	188	440	778	447	980
July ^f	11,949	4,930	356	69	2,318	246	1,941	4,104	242	405	788	508	973
August ^f	12,385	4,902	322	71	2,286	247	1,975	4,519	195	420	824	489	1,037
September ^p	12,785	4,821	343	72	2,095	303	2,008	4,594	217	644	910	541	1,057
PERCENT CHANGE													
August 1998-September 1998	3	-2	7	1	-8	23	2	2	11	53	10	11	2

NA Not available, but estimates are included in totals. ^pPreliminary. ^rRevised. Z Less than 0.5 percent.

¹Includes farm nonresidential and other private categories, not shown separately. ²Includes residential improvements, not shown separately. ³Includes amusement and recreational buildings, bus and airline terminals, animal hospitals and shelters, etc. ⁴Includes gas, electric, railroad, and petroleum pipelines, not shown separately. ⁵Includes privately owned streets and bridges, parking areas, sewer and water facilities, parks and playgrounds, golf courses, airfields, etc. ⁶Includes general administrative buildings, prisons, police and fire stations, courthouses, civic centers, passenger terminals, space facilities, postal facilities, etc. ⁷Includes open amusement and recreational facilities, power generating facilities, transit systems, airfields, open parking facilities, etc.

Table 7. Monthly Value of Public Construction Put in Place—Not Seasonally Adjusted in Current Dollars

[Millions of dollars]

Period		State and locally owned public construction										
		Total state and local	Buildings					Highways and streets	Conservation and development	Sewer systems	Water supply facilities	Miscellaneous construction ²
			Total	Housing and redevelopment	Educational	Hospital	Other buildings ¹					
1996:	September	12,591	5,016	410	2,349	338	1,920	4,862	209	975	552	977
	October	12,684	4,895	397	2,205	329	1,965	4,894	234	1,107	685	869
	November	10,889	4,784	382	2,158	277	1,966	3,537	219	948	559	843
	December	8,887	4,300	320	1,892	311	1,776	2,572	158	762	474	622
1997:	January	7,662	3,990	269	1,796	283	1,643	1,805	146	680	426	613
	February	7,847	3,992	285	1,807	268	1,632	1,862	141	687	442	723
	March	8,797	4,346	298	1,975	307	1,766	2,200	183	783	519	766
	April	9,926	4,563	331	2,069	355	1,808	3,059	204	828	494	779
	May	11,089	4,662	372	2,181	296	1,814	3,835	162	934	520	974
	June	12,453	5,170	340	2,583	328	1,919	4,562	187	978	533	1,024
	July	13,288	5,401	365	2,735	378	1,923	5,040	198	955	577	1,119
	August	14,023	5,506	351	2,856	330	1,970	5,453	225	963	556	1,320
	September	13,525	5,355	414	2,514	351	2,077	5,161	218	1,031	587	1,173
	October	13,468	5,412	457	2,428	352	2,176	4,999	249	992	616	1,199
	November	11,212	4,686	371	2,069	282	1,965	3,998	204	882	579	862
	December	9,487	4,412	332	2,033	261	1,785	2,842	178	751	491	814
1998:	January	7,989	4,152	322	1,839	256	1,736	1,927	161	689	426	634
	February	7,783	4,097	293	1,806	237	1,762	1,848	148	656	447	587
	March	8,458	4,230	336	1,850	262	1,781	2,206	154	741	467	661
	April	9,893	4,598	342	2,095	232	1,929	3,041	147	778	533	797
	May	10,588	4,689	317	2,189	245	1,938	3,563	173	770	538	855
	June	12,611	5,351	357	2,666	255	2,073	4,570	211	919	532	1,028
	July ^r	13,031	5,482	374	2,840	217	2,051	4,815	164	932	604	1,034
	August ^r	13,731	5,535	339	2,812	224	2,160	5,333	181	980	584	1,118
	September ^p	13,829	5,324	371	2,585	264	2,105	5,443	181	1,088	649	1,143
		Federally owned public construction										
		Total federal	Buildings					Highways and streets	Military facilities	Conservation and development	Miscellaneous construction ⁴	
			Total	Housing	Industrial	Educational	Hospital					Other buildings ³
1996:	September	2,010	713	68	184	1	121	338	(NA)	284	675	295
	October	928	371	46	60	2	57	207	(NA)	179	199	133
	November	1,195	513	61	91	2	74	285	(NA)	207	276	166
	December	1,070	513	51	88	-	107	267	(NA)	204	244	86
1997:	January	1,053	484	71	89	-	113	211	(NA)	202	272	79
	February	1,011	482	58	79	2	120	223	(NA)	173	249	93
	March	1,105	457	52	88	4	83	230	(NA)	195	276	159
	April	1,075	473	50	112	1	73	236	(NA)	190	226	162
	May	1,151	454	49	74	1	84	247	(NA)	220	290	155
	June	1,163	512	59	95	2	109	248	(NA)	227	258	128
	July	1,179	476	55	92	1	70	257	(NA)	239	272	151
	August	1,199	478	58	80	2	80	258	(NA)	248	296	131
	September	1,779	709	55	98	3	174	379	(NA)	279	546	200
	October	1,042	462	71	56	-	116	220	(NA)	205	155	175
	November	1,248	567	60	65	1	129	312	(NA)	242	213	195
	December	1,276	553	39	70	3	101	340	(NA)	201	312	186
1998:	January	990	429	40	75	-	71	243	(NA)	198	191	157
	February	1,078	461	64	78	1	66	253	(NA)	197	280	124
	March	1,186	516	45	94	-	105	272	(NA)	244	258	148
	April	1,076	487	39	84	1	63	301	(NA)	215	246	103
	May	1,101	481	42	80	1	88	269	(NA)	215	263	108
	June	1,189	482	44	77	2	77	283	(NA)	226	310	131
	July ^r	1,328	560	61	85	2	84	329	(NA)	291	315	118
	August ^r	1,217	497	55	87	2	81	271	(NA)	236	319	116
	September ^p	1,646	626	51	89	3	109	375	(NA)	264	589	120

- Less than \$0.5 million. NA Not available, but estimates are included in totals. ^pPreliminary. ^rRevised.

¹Includes general administrative buildings, prisons, police and fire stations, courthouses, passenger terminals, civic centers, etc. ²Includes open amusement and recreational facilities, power generating facilities, transit systems, airfields, open parking facilities, etc. ³Includes federal office buildings, prisons, courthouses, space facilities, postal facilities, etc. ⁴Includes federal airport facilities, fish and wildlife preservation facilities, VA cemeteries, etc.

Table 8. Monthly Value of Public Construction Put in Place—Seasonally Adjusted Annual Rate in Current Dollars

[Millions of dollars]

Period		State and locally owned public construction										
		Total state and local	Buildings					Highways and streets	Conservation and development	Sewer systems	Water supply facilities	Miscellaneous construction ²
			Total	Housing and redevelopment	Educational	Hospital	Other buildings ¹					
1996:	September	124,183	54,553	4,328	24,901	3,693	21,632	41,439	2,125	10,033	6,092	9,940
	October	125,259	54,465	4,159	25,467	3,543	21,296	41,419	2,368	11,293	6,918	8,797
	November	128,166	57,243	4,387	27,089	3,360	22,407	41,982	2,507	10,648	6,129	9,657
	December	125,184	56,390	4,014	26,283	3,704	22,389	42,215	2,125	10,103	5,965	8,387
1997:	January	127,151	55,811	3,492	26,092	3,698	22,528	42,645	2,387	9,954	6,358	9,996
	February	133,901	56,988	3,982	26,808	3,561	22,636	45,698	2,259	10,761	6,616	11,579
	March	137,718	59,105	3,944	27,428	3,923	23,810	45,911	2,789	10,923	7,344	11,646
	April	132,813	57,642	4,186	27,138	4,134	22,184	46,003	2,545	10,632	6,281	9,711
	May	131,155	55,694	4,267	26,755	3,838	20,835	44,683	1,927	11,167	6,096	11,589
	June	132,756	57,352	4,112	27,729	3,810	21,701	44,913	2,068	11,062	6,031	11,330
	July	133,083	57,931	4,280	27,168	4,279	22,205	44,368	2,083	10,589	6,324	11,787
	August	134,033	57,259	4,204	26,692	4,066	22,297	45,537	2,191	10,099	6,090	12,857
	September	132,669	57,693	4,317	26,551	3,708	23,117	43,926	2,215	10,484	6,458	11,893
	October	133,846	60,132	4,732	27,959	3,878	23,564	42,759	2,517	10,141	6,194	12,103
	November	132,042	56,354	4,209	25,858	3,438	22,850	47,040	2,358	10,005	6,342	9,944
	December	132,343	58,060	4,156	28,209	3,075	22,620	44,926	2,403	9,740	6,211	11,003
1998:	January	132,738	57,863	4,141	26,645	3,460	23,618	45,688	2,598	10,060	6,301	10,227
	February	132,178	58,381	4,110	26,754	3,162	24,355	45,170	2,382	10,150	6,665	9,430
	March	130,884	56,430	4,364	25,755	3,201	23,110	45,170	2,314	10,388	6,612	9,969
	April	132,323	58,039	4,342	27,294	2,852	23,552	45,784	1,857	9,874	6,726	10,044
	May	125,979	56,402	3,739	26,972	3,068	22,624	41,633	2,053	9,411	6,319	10,162
	June	132,849	58,802	4,390	28,312	2,898	23,203	44,155	2,296	10,290	6,092	11,215
	July ^f	131,619	58,591	4,318	28,025	2,579	23,668	43,379	1,733	10,336	6,653	10,926
	August ^f	131,941	58,042	4,082	26,508	2,812	24,640	44,349	1,771	10,389	6,449	10,941
	September ^P	135,192	57,830	3,971	27,403	2,698	23,758	45,967	1,820	10,962	7,095	11,517
		Federally owned public construction										
		Total federal	Buildings					Highways and streets	Military facilities	Conservation and development	Miscellaneous construction ⁴	
			Total	Housing	Industrial	Educational	Hospital					Other buildings ³
1996:	September	16,568	6,419	613	1,661	10	1,093	3,042	(NA)	2,761	4,882	2,131
	October	14,029	5,383	667	864	26	830	2,996	(NA)	2,576	3,408	2,282
	November	14,507	6,180	736	1,092	29	889	3,434	(NA)	2,296	3,518	2,122
	December	13,252	6,257	623	1,068	4	1,302	3,260	(NA)	2,360	3,145	1,112
1997:	January	13,738	6,078	894	1,112	4	1,420	2,649	(NA)	2,486	3,718	1,078
	February	14,294	6,527	791	1,071	23	1,624	3,018	(NA)	2,552	3,526	1,321
	March	13,570	5,499	629	1,059	48	999	2,763	(NA)	2,364	3,379	1,953
	April	13,540	5,906	628	1,405	10	913	2,951	(NA)	2,431	2,813	2,015
	May	13,345	5,158	555	839	9	952	2,803	(NA)	2,580	3,402	1,821
	June	13,717	5,933	682	1,100	22	1,258	2,870	(NA)	2,729	3,128	1,553
	July	14,131	5,879	677	1,136	16	869	3,181	(NA)	2,880	3,216	1,786
	August	13,898	5,950	723	992	22	996	3,217	(NA)	2,812	3,289	1,454
	September	14,751	6,325	490	876	28	1,551	3,379	(NA)	2,630	3,965	1,449
	October	15,223	6,438	985	775	3	1,610	3,065	(NA)	2,806	2,631	2,964
	November	15,686	7,232	760	834	6	1,649	3,983	(NA)	2,889	2,709	2,479
	December	15,584	6,451	455	819	33	1,176	3,970	(NA)	2,342	4,019	2,392
1998:	January	13,169	5,420	501	949	3	902	3,066	(NA)	2,474	2,683	2,213
	February	15,106	6,138	853	1,042	11	871	3,362	(NA)	2,916	3,923	1,738
	March	14,696	6,500	567	1,189	4	1,317	3,424	(NA)	2,818	3,174	1,815
	April	13,573	5,895	467	1,010	17	758	3,642	(NA)	2,850	3,128	1,308
	May	12,921	5,694	501	944	17	1,047	3,185	(NA)	2,471	3,093	1,266
	June	13,900	5,603	508	893	21	895	3,286	(NA)	2,659	3,693	1,559
	July ^f	15,441	6,637	723	1,007	19	996	3,893	(NA)	3,309	3,712	1,386
	August ^f	14,238	6,007	667	1,057	29	974	3,281	(NA)	2,912	3,599	1,313
	September ^P	13,721	5,733	462	812	27	1,001	3,431	(NA)	2,513	4,220	858

NA Not available, but estimates are included in totals. ^PPreliminary. ^fRevised.

¹Includes general administrative buildings, prisons, police and fire stations, courthouses, passenger terminals, civic centers, etc. ²Includes open amusement and recreational facilities, power generating facilities, transit systems, airfields, open parking facilities, etc. ³Includes federal office buildings, prisons, courthouses, space facilities, postal facilities, etc. ⁴Includes federal airport facilities, fish and wildlife preservation facilities, VA cemeteries, etc.

Table 9. Monthly Value of Public Construction Put in Place—Seasonally Adjusted Annual Rate in 1992 Dollars

[Millions of dollars]

Period		State and locally owned public construction										
		Total state and local	Buildings					Highways and streets	Conservation and development	Sewer systems	Water supply facilities	Miscellaneous construction ²
			Total	Housing and redevelopment	Educational	Hospital	Other buildings ¹					
1996:	September	108,229	47,172	3,686	21,559	3,197	18,729	36,414	1,863	8,793	5,260	8,727
	October	109,110	47,016	3,536	22,011	3,062	18,407	36,428	2,077	9,906	5,954	7,730
	November	111,731	49,368	3,724	23,393	2,902	19,350	37,021	2,205	9,365	5,270	8,501
	December	108,839	48,476	3,402	22,619	3,187	19,268	37,161	1,864	8,862	5,107	7,370
1997:	January	109,833	47,779	2,947	22,358	3,169	19,305	37,212	2,070	8,633	5,439	8,700
	February	115,541	48,823	3,363	22,991	3,054	19,414	39,772	1,951	9,293	5,670	10,033
	March	117,858	50,313	3,328	23,363	3,342	20,281	39,578	2,384	9,336	6,251	9,996
	April	113,284	48,944	3,527	23,057	3,512	18,848	39,454	2,173	9,079	5,327	8,307
	May	111,515	47,094	3,585	22,635	3,247	17,627	38,191	1,644	9,528	5,162	9,896
	June	112,854	48,445	3,441	23,439	3,221	18,344	38,387	1,767	9,455	5,115	9,684
	July	112,925	48,652	3,566	22,830	3,595	18,660	37,987	1,779	9,043	5,382	10,083
	August	113,557	47,889	3,492	22,336	3,402	18,659	38,987	1,871	8,625	5,187	10,998
	September	112,285	48,125	3,571	22,163	3,095	19,297	37,640	1,890	8,945	5,510	10,174
	October	112,825	50,110	3,904	23,319	3,234	19,653	36,298	2,153	8,675	5,281	10,309
	November	110,531	46,708	3,470	21,441	2,850	18,947	39,496	2,011	8,529	5,374	8,413
	December	110,694	48,126	3,429	23,391	2,550	18,756	37,627	2,052	8,318	5,264	9,309
1998:	January	111,136	47,937	3,428	22,075	2,866	19,567	38,425	2,217	8,583	5,313	8,660
	February	110,857	48,369	3,405	22,166	2,619	20,178	38,150	2,036	8,675	5,615	8,012
	March	109,703	46,643	3,613	21,285	2,645	19,099	38,183	1,976	8,871	5,561	8,470
	April	110,881	47,820	3,588	22,483	2,349	19,400	38,833	1,584	8,425	5,671	8,548
	May	105,347	46,325	3,088	22,144	2,519	18,574	35,312	1,746	8,002	5,328	8,634
	June	110,713	48,098	3,607	23,149	2,369	18,972	37,356	1,943	8,705	5,123	9,488
	July ^f	109,469	47,805	3,537	22,859	2,104	19,305	36,638	1,465	8,737	5,596	9,228
	August ^f	109,221	47,175	3,340	21,534	2,284	20,016	37,237	1,488	8,730	5,397	9,194
	September ^p	111,568	46,850	3,239	22,189	2,185	19,238	38,466	1,523	9,173	5,917	9,638
		Federally owned public construction										
		Total federal	Buildings					Highways and streets	Military facilities	Conservation and development	Miscellaneous construction ⁴	
			Total	Housing	Industrial	Educational	Hospital					Other buildings ³
1996:	September	14,438	5,549	522	1,438	9	946	2,634	(NA)	2,409	4,279	1,871
	October	12,218	4,643	567	747	23	718	2,589	(NA)	2,246	2,990	2,005
	November	12,636	5,326	625	943	25	768	2,965	(NA)	2,003	3,094	1,868
	December	11,499	5,377	528	919	3	1,121	2,805	(NA)	2,054	2,759	977
1997:	January	11,840	5,196	754	953	3	1,217	2,270	(NA)	2,151	3,224	938
	February	12,303	5,587	668	919	20	1,393	2,588	(NA)	2,206	3,045	1,144
	March	11,592	4,679	531	902	41	851	2,354	(NA)	2,025	2,888	1,676
	April	11,535	5,014	529	1,194	8	775	2,507	(NA)	2,074	2,402	1,723
	May	11,340	4,361	466	710	8	806	2,372	(NA)	2,194	2,902	1,555
	June	11,648	5,009	571	930	19	1,063	2,426	(NA)	2,318	2,673	1,328
	July	11,969	4,935	564	954	14	730	2,673	(NA)	2,442	2,747	1,528
	August	11,745	4,975	600	830	19	833	2,692	(NA)	2,381	2,809	1,244
	September	12,449	5,276	406	732	23	1,295	2,820	(NA)	2,223	3,383	1,240
	October	12,822	5,360	813	646	2	1,343	2,556	(NA)	2,360	2,250	2,525
	November	13,128	5,993	626	691	5	1,368	3,303	(NA)	2,412	2,310	2,097
	December	13,073	5,347	375	679	27	975	3,292	(NA)	1,952	3,432	2,024
1998:	January	11,037	4,490	415	786	2	747	2,540	(NA)	2,065	2,289	1,874
	February	12,683	5,086	707	863	9	722	2,785	(NA)	2,438	3,353	1,476
	March	12,310	5,373	469	982	3	1,089	2,830	(NA)	2,356	2,710	1,542
	April	11,354	4,857	386	832	14	625	3,000	(NA)	2,383	2,669	1,113
	May	10,783	4,678	414	775	14	860	2,615	(NA)	2,063	2,630	1,075
	June	11,564	4,584	418	730	17	732	2,687	(NA)	2,210	3,124	1,319
	July ^f	12,806	5,416	592	821	15	813	3,175	(NA)	2,746	3,138	1,171
	August ^f	11,758	4,884	545	859	24	791	2,665	(NA)	2,404	3,024	1,103
	September ^p	11,295	4,645	377	657	21	811	2,778	(NA)	2,069	3,532	718

NA Not available, but estimates are included in totals. ^fPreliminary. ^rRevised.

¹Includes general administrative buildings, prisons, police and fire stations, courthouses, passenger terminals, civic centers, etc. ²Includes open amusement and recreational facilities, power generating facilities, transit systems, airfields, open parking facilities, etc. ³Includes federal office buildings, prisons, courthouses, space facilities, postal facilities, etc. ⁴Includes federal airport facilities, fish and wildlife preservation facilities, VA cemeteries, etc.

Table 10. Monthly Value of Public Construction Put in Place—Not Seasonally Adjusted in 1992 Dollars

[Millions of dollars]

Period		State and locally owned public construction										
		Total state and local	Buildings					Highways and streets	Conservation and development	Sewer systems	Water supply facilities	Miscellaneous construction ²
			Total	Housing and redevelopment	Educational	Hospital	Other buildings ¹					
1996:	September	10,981	4,337	349	2,034	293	1,662	4,273	183	854	477	857
	October	11,059	4,225	337	1,906	284	1,698	4,305	205	971	589	764
	November	9,493	4,125	324	1,864	239	1,698	3,119	192	834	481	742
	December	7,719	3,696	271	1,629	268	1,529	2,264	138	668	406	547
1997:	January	6,606	3,416	227	1,539	242	1,408	1,575	127	590	364	534
	February	6,761	3,420	241	1,550	230	1,399	1,621	122	593	379	626
	March	7,521	3,700	252	1,682	261	1,504	1,896	157	669	442	657
	April	8,464	3,874	279	1,758	301	1,536	2,624	174	707	419	666
	May	9,428	3,942	313	1,845	250	1,535	3,278	138	797	440	832
	June	10,589	4,367	284	2,184	278	1,622	3,899	160	836	452	875
	July	11,283	4,536	304	2,298	318	1,616	4,315	169	815	491	957
	August	11,892	4,606	291	2,390	276	1,648	4,669	192	822	474	1,129
	September	11,459	4,467	342	2,098	293	1,733	4,423	186	880	501	1,003
	October	11,362	4,510	377	2,025	293	1,815	4,244	213	849	525	1,021
	November	9,387	3,884	306	1,715	233	1,629	3,357	174	752	491	729
	December	7,935	3,657	274	1,686	217	1,480	2,380	152	641	416	689
1998:	January	6,682	3,440	266	1,523	212	1,438	1,620	137	588	360	537
	February	6,518	3,395	243	1,496	196	1,460	1,561	127	560	377	499
	March	7,079	3,496	278	1,529	217	1,472	1,865	131	633	393	562
	April	8,284	3,788	283	1,726	191	1,589	2,579	126	663	449	678
	May	8,855	3,852	262	1,797	201	1,591	3,022	147	655	453	727
	June	10,516	4,377	294	2,180	209	1,695	3,866	178	778	447	870
	July ^r	10,848	4,473	306	2,316	177	1,673	4,067	139	788	508	874
	August ^r	11,380	4,498	277	2,284	182	1,755	4,478	152	824	489	939
	September ^p	11,428	4,313	302	2,093	214	1,704	4,555	151	910	541	957
		Federally owned public construction										
		Total federal	Buildings					Highways and streets	Military facilities	Conservation and development	Miscellaneous construction ⁴	
			Total	Housing	Industrial	Educational	Hospital					Other buildings ³
1996:	September	1,752	616	58	160	1	105	292	(NA)	248	592	259
	October	808	320	39	52	2	50	179	(NA)	156	175	117
	November	1,041	442	52	78	2	64	246	(NA)	181	242	146
	December	928	441	43	75	-	92	230	(NA)	178	214	76
1997:	January	907	414	60	76	-	97	181	(NA)	175	236	69
	February	870	413	49	68	1	103	191	(NA)	149	215	81
	March	944	389	44	75	3	71	196	(NA)	167	236	137
	April	916	401	42	95	1	62	201	(NA)	162	193	138
	May	978	384	41	62	1	71	209	(NA)	187	247	132
	June	988	432	49	80	2	92	209	(NA)	193	220	109
	July	999	399	46	77	1	59	216	(NA)	203	232	129
	August	1,014	399	48	67	2	67	216	(NA)	210	253	112
	September	1,502	592	45	82	3	145	316	(NA)	236	466	171
	October	877	385	58	46	-	96	183	(NA)	172	133	149
	November	1,045	469	49	54	-	107	259	(NA)	202	182	165
	December	1,070	459	32	58	2	84	282	(NA)	168	266	157
1998:	January	830	355	33	62	-	59	201	(NA)	165	163	133
	February	905	382	53	65	1	54	209	(NA)	165	239	105
	March	993	427	37	78	-	86	225	(NA)	204	221	126
	April	900	402	32	69	1	52	248	(NA)	179	210	87
	May	919	395	35	65	1	73	221	(NA)	179	224	92
	June	989	394	36	63	1	63	231	(NA)	188	262	111
	July ^r	1,102	457	50	69	1	69	268	(NA)	242	266	99
	August ^r	1,005	404	45	71	2	65	220	(NA)	195	268	98
	September ^p	1,357	507	41	72	2	89	303	(NA)	217	493	100

- Less than \$0.5 million. NA Not available, but estimates are included in totals. ^pPreliminary. ^rRevised.

¹Includes general administrative buildings, prisons, police and fire stations, courthouses, passenger terminals, civic centers, etc. ²Includes open amusement and recreational facilities, power generating facilities, transit systems, airfields, open parking facilities, etc. ³Includes federal office buildings, prisons, courthouses, space facilities, postal facilities, etc. ⁴Includes federal airport facilities, fish and wildlife preservation facilities, VA cemeteries, etc.

Table 11. Indexes Used in Deriving Estimates of the Value of Construction Put in Place in Constant Dollars

[1992 = 100]

Period	Bureau of the Census		Engineering News-Record		Bureau of the Census Houses Under Construction		Federal Highway Administration composite	Bureau of Reclamation	Turner Construction Company	Handy-Whitman public utility				C.A. Turner telephone plant
	Composite fixed-weighted	Implicit price deflator	Buildings	Construction	Fixed-weighted	Price deflator				Buildings	Electric	Gas	Water	
	Annual indexes													
1993.....	103.7	103.8	105.7	104.5	104.9	104.8	103.0	103	102	105	103	103	104	102
1994.....	108.0	108.1	109.8	108.5	109.7	109.5	109.5	106	105	112	107	109	109	103
1995.....	112.5	112.6	109.8	109.8	114.4	114.3	115.9	110	109	115	111	111	112	110
1996.....	115.0	115.2	113.0	112.8	116.4	116.5	116.1	112	112	118	112	112	115	115
1997.....	118.7	118.9	118.7	116.9	119.9	119.9	124.7	116	117	122	115	115	118	117
	Monthly indexes						Quarterly indexes			Semiannual indexes				
1997: January.....	117.1	117.2	117.6	115.6	118.6	118.5								
February.....	117.0	117.1	117.6	115.7	118.5	118.4	127.1	114	114					
March.....	117.6	117.7	117.3	115.5	118.6	118.5				121	114	114	117	116
April.....	117.8	117.9	118.7	116.3	118.7	118.7								
May.....	118.1	118.3	119.2	117.1	118.8	119.0	124.1	116	116					
June.....	118.3	118.5	119.9	117.6	119.2	119.5								
July.....	118.6	118.9	119.7	117.6	119.6	120.0								
August.....	118.9	119.3	119.5	117.4	120.0	120.4	116.4	118	118					
September.....	119.5	119.6	119.2	117.4	120.9	120.9				122	114	115	118	117
October.....	119.9	119.9	119.0	117.3	121.5	121.2								
November.....	120.6	120.4	118.2	117.1	121.9	121.3	131.5	118	119					
December.....	120.7	120.4	118.9	117.5	122.0	121.2								
1998: January.....	120.6	120.3	118.7	117.4	121.6	120.8								
February.....	120.3	120.3	119.0	117.8	121.1	120.7	113.8	118	120					
March.....	120.3	120.4	118.9	117.9	121.0	120.8				122	116	116	118	119
April.....	120.4	120.6	119.1	118.0	121.0	121.0								
May.....	120.6	120.8	119.1	118.0	121.2	121.1	118.2	118	121					
June.....	121.4	121.2	119.2	118.3	122.2	121.7								
July.....	^r 122.0	^r 121.5	119.4	118.8	^r 123.1	^r 122.1								
August.....	^r 122.2	^r 121.8	119.7	118.9	^r 123.0	^r 122.2	(NA)	118	123					
September.....	^p 122.3	^p 122.2	120.5	119.6	^p 123.0	^p 122.6				122	117	117	119	120
October.....			120.8	120.1										

NA Not available. ^pPreliminary. ^rRevised.

Table 12. Factors Used to Seasonally Adjust Estimates of the Value of Construction Put in Place

[Percent]

Type of construction	Sep. 1998 ^p	Aug. 1998 ^f	July 1998 ^f	June 1998	May 1998	Apr. 1998	Mar. 1998	Feb. 1998	Jan. 1998	Dec. 1997	Nov. 1997	Sep. 1997
PRIVATE CONSTRUCTION												
Residential buildings:												
New housing units:												
1 unit	114.2	114.7	112.7	107.9	101.4	95.0	90.2	76.1	81.2	88.6	106.5	114.5
2 units or more	105.0	107.9	104.2	107.1	105.6	99.0	95.1	88.1	87.1	95.0	100.7	105.0
Nonresidential buildings:												
Industrial	109.8	101.6	100.8	103.9	100.3	95.8	94.9	89.1	89.1	105.3	102.4	107.8
Office	105.4	104.0	103.7	104.1	103.3	99.2	95.7	92.1	91.2	97.5	101.3	105.1
Hotels, motels	101.1	103.3	100.3	107.8	101.4	104.3	100.0	93.1	91.2	99.4	98.7	103.0
Other commercial	113.1	110.9	108.0	106.1	99.7	94.5	89.1	82.6	83.5	94.8	103.1	114.9
Religious	111.3	107.2	97.7	97.2	92.9	93.9	92.9	87.1	90.3	103.9	110.1	114.2
Educational	106.8	120.5	121.1	116.8	101.5	95.8	88.9	82.0	83.2	86.3	93.9	108.2
Hospital and institutional	103.7	103.6	97.6	100.2	101.1	99.2	96.6	94.6	94.7	99.2	104.3	103.3
Miscellaneous nonresidential	105.2	102.7	102.2	102.6	99.5	103.5	99.2	88.2	87.4	96.4	105.1	105.6
Telecommunications	106.5	103.1	104.2	107.9	96.2	98.9	97.4	83.1	82.2	108.3	99.6	105.9
All other private	110.4	110.4	105.7	104.5	98.2	93.1	89.1	81.6	88.6	95.3	107.1	109.8
PUBLIC CONSTRUCTION												
State and local												
Buildings:												
Housing and redevelopment	112.0	99.6	103.9	97.7	101.8	94.5	92.5	85.6	93.2	95.9	105.7	115.0
Educational	113.2	127.3	121.6	113.0	97.4	92.1	86.2	81.0	82.8	86.5	96.0	113.6
Hospital	117.5	95.5	101.0	105.6	95.8	97.5	98.3	89.8	88.9	102.0	98.3	113.7
Other buildings	106.3	105.2	104.0	107.2	102.8	98.3	92.5	86.8	88.2	94.7	103.2	107.8
Highways and streets	142.1	144.3	133.2	124.2	102.7	79.7	58.6	49.1	50.6	75.9	102.0	141.0
Conservation and development	119.1	122.6	113.6	110.0	101.0	95.2	79.6	74.7	74.4	88.8	104.0	118.3
Sewer systems	119.1	113.2	108.2	107.2	98.2	94.5	85.6	77.5	82.2	92.5	105.8	118.0
Water supply facilities	109.8	108.7	108.9	104.8	102.1	95.1	84.7	80.5	81.2	94.8	109.6	109.0
Miscellaneous construction	119.1	122.6	113.6	110.0	101.0	95.2	79.6	74.7	74.4	88.8	104.0	118.3
Federal												
Buildings:												
Housing and redevelopment	131.1	99.2	101.3	103.2	101.3	99.2	95.3	90.2	95.0	102.9	94.0	134.6
Industrial	131.1	99.2	101.3	103.2	101.3	99.2	95.3	90.2	95.0	102.9	94.0	134.6
Educational	131.1	99.2	101.3	103.2	101.3	99.2	95.3	90.2	95.0	102.9	94.0	134.6
Hospital	131.1	99.2	101.3	103.2	101.3	99.2	95.3	90.2	95.0	102.9	94.0	134.6
Other buildings	131.1	99.2	101.3	103.2	101.3	99.2	95.3	90.2	95.0	102.9	94.0	134.6
Military	126.1	97.3	105.6	102.0	104.4	90.3	104.0	81.1	95.9	103.1	100.6	127.3
Conservation and development	167.5	106.3	101.8	100.7	102.2	94.3	97.7	85.5	85.2	93.1	94.3	165.2
Miscellaneous construction	167.5	106.3	101.8	100.7	102.2	94.3	97.7	85.5	85.2	93.1	94.3	165.2

^pPreliminary. ^fRevised.

Appendix.

Reliability of the Estimates

The statistics on the value of construction put in place result from direct measurement and indirect estimation. A series results from direct measurement when it is based on reports of the actual value of construction progress or construction expenditures obtained from a complete census or sample survey. All other series are developed by indirect estimation using related construction statistics.

On an annual basis, the estimates for series directly measured monthly, quarterly, or annually accounted for about 73 percent of total construction in 1997 (private multifamily residential, private residential improvements, private nonresidential buildings, farm nonresidential construction, public utility construction, all other private construction, and virtually all of public construction). On a monthly basis, directly measured data are available for about 56 percent of the value-in-place estimates.

Some of the directly measured monthly construction value-in-place estimates are based on samples. Estimates from these samples may differ from statistics which would have been obtained from a complete census using the same schedules and procedures. An estimate based on a sample survey is subject to both sampling error and nonsampling error. The accuracy of a survey result is determined by the joint effects of these errors.

MEASURE OF SAMPLING ERRORS

Sampling error reflects the fact that only a particular sample was surveyed rather than the entire population. Each sample selected for the monthly value-in-place survey is one of a large number of similar probability samples that, by chance, might have been selected under the same specifications. Estimates derived from the different samples would differ from one another. The standard error, or sampling error, of a survey estimate is a measure of the variation among the estimates from all possible samples and, thus, is a measure of the precision with which an estimate from a particular sample approximates the average from all possible samples.

Estimates of the standard errors for the monthly, year-to-date and annual estimates were computed from the sample data for selected statistics in this report. They are presented in the form of relative standard errors in the following table. The relative standard error equals the standard error divided by the estimated value to which it refers.

The sample estimate and an estimate of its standard error allow us to construct interval estimates with prescribed confidence that the interval includes the average result of all possible samples with the same size and design. A 90-percent confidence interval is defined to be from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate. If all possible samples were selected and surveyed under essentially the same conditions and all the respective 90-percent confidence intervals were generated, then approximately nine-tenths of the intervals would include the average value of all sample estimates and approximately one-tenth would not include this estimate. For example, suppose Table 3 of this report showed that the monthly VIP estimate for "total private nonresidential buildings" was \$10.0 billion in a particular month. According to the following table, the relative standard error of this estimate is 2 percent. Multiplying \$10.0 billion by .02, we obtain \$200 million as the standard error. To obtain a 90-percent confidence interval, multiply \$200 million by 1.6 and add and subtract the result from \$10.0 billion, yielding limits of \$9.68 billion and \$10.32 billion. The average value of the monthly VIP estimate for "total private nonresidential buildings" may or may not be contained in this computed interval, but one can say that the average is included in the constructed interval with a specified confidence of 90 percent.

The following table also presents coefficients necessary to compute standard errors for the month-to-month and year-to-date changes. To derive a specific standard error of a change, look up an appropriate coefficient (k_1 or k_2) for the change and apply the following formula:

$$\text{Standard error of a change} = k (100 + (\% \text{ change shown in Tables 3 thru 6}))$$

Once the standard error is available, one can construct a 90-percent confidence interval of the change by multiplying the standard error by 1.6.

No standard errors are shown for farm nonresidential or public utilities because the estimates are based on a complete enumeration.

NONSAMPLING ERRORS

As calculated for this report, the coefficient of variation estimates sampling variation but does not measure all nonsampling error in the data. Nonsampling error consists of both a variance component and a bias

component. Bias is the difference, averaged over all possible samples of the same size and design, between the estimate and the true value being estimated. Non-sampling errors are usually attributed to many possible sources: (1) coverage error—failure to accurately represent all population units in the sample, (2) inability to obtain information about all sample cases, (3) response errors, possibly due to definitional difficulties or misreporting, (4) mistakes in recording or coding the data obtained, and (5) other errors of coverage, collection and nonresponse, response, processing, or imputing for missing or inconsistent data. These nonsampling errors also occur in complete censuses. Although no direct measures of these errors have been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data to minimize their influence.

A major source of nonsampling error in the published estimates is due to the need to impute data for nonrespondents and for late and inconsistent reports. For preliminary value-in-place estimates, the average imputation rates for major components are as follows: private nonresidential construction, 45 percent; state and locally owned public construction, 33 percent; private residential construction of 2 units or more, 47 percent; and private residential improvements, 13 percent. Each of these imputation rates is not an explicit indication of the potential error in statistics, but the degree of uncertainty regarding the accuracy of the statistics increases as the percentage of imputation increases.

Other potential sources of bias are the upward adjustment of 28 percent made to the private nonresidential construction and the adjustment of the state and local owned public construction to the construction outlays from the Annual Survey of Government Finances in order to account for construction projects not included in their respective sampling frames. The adjustment for the nonresidential construction results from a coverage evaluation sample; hence, the estimated percentage adjustment is subject to sampling error and nonsampling errors associated with the evaluation study. In addition, the percentage was estimated from data collected during a limited time period; therefore, these adjustments do not reflect any recent changes in the proportion of projects not included in the frame.

For state and locally owned construction, construction outlays from the Survey of Government Finances are available only through Fiscal Year 1995. (Outlays are included if a government agency's fiscal year ending date falls within July 1994 to June 1995 inclusive, and

for three state agencies with fiscal years ending in August or September 1995.) As a result, the adjustment to the construction outlay levels of this survey must be projected ahead for 4 years from 1995 through April 1999. The relationship between the state and locally owned value-in-place and the capital outlays estimate changes from year to year so that revisions of 4 to 5 percent are expected in state and local construction and substantially larger revisions can be expected in the individual types of construction. In addition, because of the definition of fiscal year for the Survey of Government Finances, the reported capital outlays do not correspond to any 12 month period but result from capital outlays made over a 26 month period. There are also definitional and timing differences between the concepts of capital outlays and value put in place.

Consequently, even though the private nonresidential and state and local owned construction adjustments are designed to reduce the bias due to the failure to include projects in the sampling frames, for the above stated reasons, these adjustment procedures, themselves, may introduce a bias in the current estimates of value-in-place.

Furthermore, additional nonsampling errors may be introduced into the estimates because the procedures such as phasing, extrapolating, and forecasting used to develop the indirectly measured series are subject to the validity of the underlying assumptions made and mathematical models used. No explicit measures of the effect of these procedures are available.

MONTHLY REVISIONS TO ESTIMATES

Statistics for the current month are preliminary estimates. These estimates are released to provide government and private data users with early measures of construction activity. A necessary part of the process of issuing these early data involves the issuance of subsequent revisions. The revisions to monthly construction put in place estimates are primarily the result of the replacement of imputed data with data which are reported in subsequent months.

For total construction, the range of the difference between the last 12 preliminary and second revision estimates for the same months was from 0.1 percent to 1.7 percent with a median of 0.5 percent. The range of the difference between first revision and second revision was from -0.4 to 0.5 percent, with a median of 0.0 percent.

Relative Standard Errors and Coefficients for Standard Errors of Changes

Type of construction	Relative standard error (percent)			Coefficient for changes	
	Monthly estimate	Year-to-date estimate	Annual estimate	Month-to-month change (k1)	Year-to-date change (k2)
Total construction	2	1	1	.03	.02
Private construction	3	1	1	.04	.02
Residential buildings	5	2	2	.06	.03
New housing units	2	1	1	.01	.01
1 unit structures	2	2	2	.01	.01
2 units or more	4	3	3	.03	.03
Nonresidential buildings	2	1	1	.02	.01
Industrial	3	2	2	.04	.03
Office	4	2	2	.05	.03
Hotels, motels	7	6	5	.09	.08
Other commercial	5	3	2	.06	.04
Religious	9	6	5	.12	.09
Educational	7	5	5	.10	.07
Hospital and institutional	6	5	5	.07	.07
Miscellaneous buildings	7	4	4	.09	.06
Public construction	2	1	1	.03	.01
Housing and redevelopment	8	5	4	.11	.07
Industrial	(NA)	(NA)	(NA)	(NA)	(NA)
Educational	3	2	2	.04	.03
Hospital	6	4	4	.08	.06
Other public buildings	3	2	2	.04	.03
Highways and streets	4	2	2	.05	.03
Military facilities	(NA)	(NA)	(NA)	(NA)	(NA)
Conservation and development	4	2	2	.06	.03
Sewer systems	6	3	3	.08	.04
Water supply facilities	8	4	3	.11	.06
Miscellaneous public	8	4	4	.11	.06
State and local construction	2	1	1	.03	.01
Housing and redevelopment	8	5	5	.11	.07
Educational	3	2	2	.04	.03
Hospital	8	6	5	.11	.09
Other public buildings	4	3	2	.05	.04
Highways and streets	4	2	2	.05	.03
Conservation and development	16	9	9	.23	.13
Sewer systems	6	3	3	.08	.04
Water supply facilities	8	4	3	.11	.06
Miscellaneous public	9	5	4	.12	.07
Federal construction	(NA)	(NA)	(NA)	(NA)	(NA)

NA Not available.

Note: All statistics are based upon 1997 data. The coefficient (k1) for the month-to-month change is applicable to change from the previous month and change from the same month a year ago.