

Value of Construction Put in Place

April
1999
Issued June 1999

C30/99-4

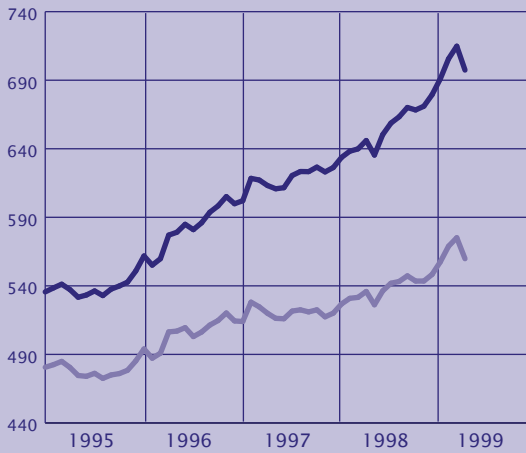
Current Construction Reports

Monthly Value of Construction Put in Place

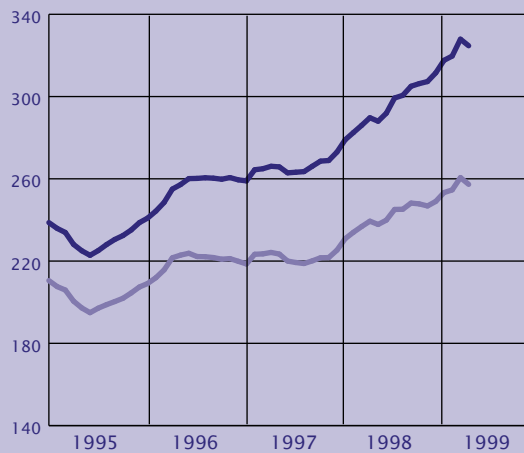
Seasonally adjusted annual rate in billions of dollars

— Current dollars
— 1992 dollars

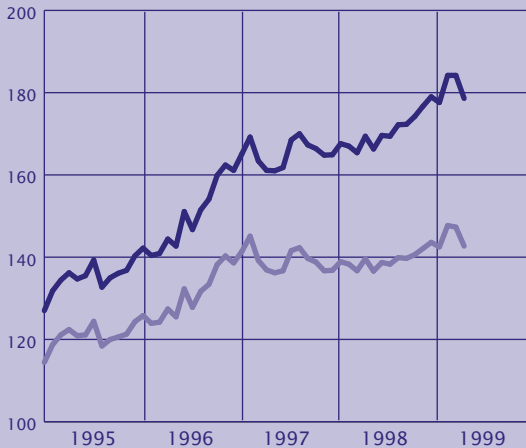
Total Construction



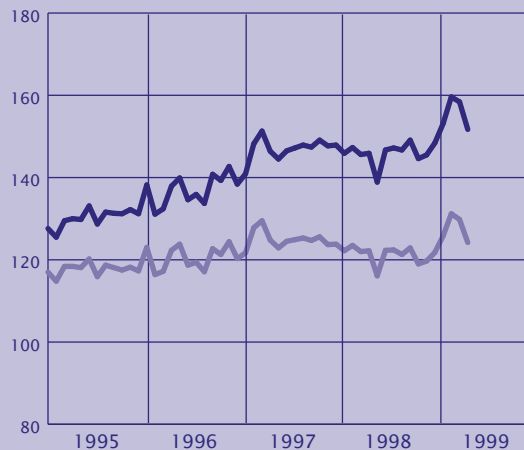
Private Residential Construction



Private Nonresidential Construction



Public Construction



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

Questions regarding these data may be directed to **George A. Roff**, Construction Expenditures Branch, Manufacturing and Construction Division, telephone: 301-457-1605.

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VALUE OF CONSTRUCTION PUT IN PLACE

Construction put in place during April 1999 was estimated at a seasonally adjusted annual rate of \$697.4 billion, 2(±5) percent below the revised March estimate of \$714.8 billion. The April figure represents an 8 percent increase over April 1998.

During the first 4 months of this year \$199.7 billion of construction was put in place, 10 percent above the \$181.4 billion for the same period in 1998.

In constant (1992) dollars, the April annual rate was \$559.8 billion, 3(±5) percent below the revised estimate of \$575.1 billion for March.

Spending on new residential housing units was at a seasonally adjusted annual rate of \$238.9 billion in April, 1(±2) percent below the revised March estimate of \$241.2 billion. Nonresidential building construction was at a rate of \$178.6 billion, 3(±3) percent below the revised March estimate of \$184.2 billion.

In April, the estimated seasonally adjusted annual rate of public construction put in place was \$151.7 billion, 4(±5) percent below the revised March estimate of \$158.4 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, U.S. Census Bureau, 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, U.S. Census Bureau, 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, U.S. Census Bureau, 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, U.S. Census Bureau, 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, U.S. Census Bureau, Washington, DC, 1994.

Table 1. Annual Value of Construction Put in Place: 1994-1998

[Millions of dollars]

Type of construction	Current dollars					Constant (1992) dollars				
	1994	1995	1996	1997	1998	1994	1995	1996	1997	1998
Total construction	519,539	538,134	583,638	618,217	655,430	480,620	478,069	506,655	520,117	538,399
Private construction	399,346	407,477	446,306	471,159	509,528	367,247	360,040	385,967	395,321	417,273
Residential buildings	238,874	230,688	256,460	265,610	296,525	218,005	201,677	220,017	221,546	242,378
New housing units	167,919	162,898	179,448	187,075	211,801	153,250	142,413	153,966	156,038	173,109
1 unit	153,838	145,009	159,124	164,444	187,422	140,416	126,773	136,516	137,156	153,170
2 units or more	14,081	17,889	20,324	22,631	24,379	12,833	15,640	17,450	18,882	19,939
Improvements	70,955	67,790	77,012	78,535	(NA)	64,755	59,264	66,052	65,508	(NA)
Nonresidential buildings	120,285	135,022	150,350	165,146	170,826	111,416	120,627	131,188	139,067	139,380
Industrial	28,947	32,505	32,657	31,394	30,315	26,803	29,043	28,503	26,440	24,743
Office	22,178	25,613	27,886	32,816	38,229	20,553	22,891	24,329	27,631	31,185
Hotels, motels	4,648	7,112	10,912	12,752	14,288	4,308	6,351	9,521	10,741	11,653
Other commercial	37,551	42,654	48,188	50,763	49,920	34,756	38,098	42,042	42,748	40,723
Religious	3,869	4,326	4,534	5,885	6,403	3,584	3,864	3,955	4,951	5,222
Educational	4,822	5,493	6,742	8,437	9,153	4,471	4,908	5,880	7,101	7,473
Hospital and institutional	12,268	11,248	11,780	13,741	13,399	11,377	10,051	10,280	11,576	10,939
Miscellaneous ¹	6,002	6,071	7,650	9,358	9,119	5,565	5,421	6,677	7,880	7,441
Farm nonresidential	3,226	3,014	3,804	3,956	(NA)	2,990	2,692	3,319	3,329	(NA)
Public utilities	34,071	35,859	33,261	34,188	(NA)	32,074	32,401	29,286	29,448	(NA)
Telecommunications	10,121	11,093	11,772	11,626	12,246	9,785	10,073	10,245	9,918	10,271
Other public utilities	23,950	24,766	21,489	22,562	(NA)	22,289	22,328	19,041	19,529	(NA)
Railroads	3,340	3,509	4,398	5,059	(NA)	3,186	3,201	3,894	4,321	(NA)
Electric light and power	14,918	14,049	11,211	12,144	(NA)	13,877	12,656	9,914	10,545	(NA)
Gas	4,694	6,279	4,865	4,390	(NA)	4,308	5,637	4,330	3,820	(NA)
Petroleum pipelines	998	929	1,015	969	(NA)	918	834	903	843	(NA)
All other private ²	2,890	2,893	2,431	2,258	2,493	2,763	2,643	2,156	1,931	2,105
Public construction	120,193	130,657	137,333	147,058	145,902	113,373	118,029	120,688	124,796	121,125
Buildings	49,446	55,700	58,659	63,603	64,041	45,728	49,683	51,119	53,515	52,269
Housing and redevelopment ..	3,835	4,491	4,614	4,861	4,536	3,495	3,928	3,958	4,055	3,712
Industrial	1,465	1,508	1,389	998	993	1,358	1,348	1,214	842	811
Educational	20,361	23,278	24,112	27,065	27,453	18,838	20,800	21,035	22,786	22,398
Hospital	3,951	4,332	4,638	5,042	3,888	3,663	3,871	4,050	4,247	3,175
Other ³	19,834	22,089	23,907	25,637	27,171	18,373	19,737	20,863	21,585	22,173
Highways and streets	37,419	38,498	41,243	45,197	44,526	36,219	35,303	36,483	38,605	37,345
Military facilities	2,318	3,011	2,634	2,620	2,717	2,196	2,728	2,317	2,223	2,250
Conservation and development ..	6,363	6,368	6,011	5,658	5,553	5,996	5,779	5,335	4,841	4,717
Sewer systems	8,700	9,435	10,433	10,463	10,398	8,199	8,557	9,260	8,951	8,835
Water supply facilities	4,647	5,283	5,964	6,339	6,675	4,237	4,695	5,187	5,393	5,586
Miscellaneous public ⁴	11,301	12,362	12,388	13,177	11,991	10,799	11,284	10,987	11,267	10,124

NA Not available, but estimates are included in totals.

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: 1994-1998

[Millions of dollars]

Type of construction	Current dollars					Constant (1992) dollars				
	1994	1995	1996	1997	1998	1994	1995	1996	1997	1998
Total public construction	120,193	130,657	137,333	147,058	145,902	113,373	118,029	120,688	124,796	121,125
State and local construction	105,753	114,906	121,965	132,777	131,532	99,804	103,816	107,169	112,687	109,189
Total buildings	44,303	49,657	52,429	57,497	58,038	40,972	44,294	45,689	48,379	47,368
Housing and redevelopment	3,389	3,915	3,933	4,185	3,967	3,089	3,424	3,374	3,490	3,246
Educational	20,335	23,252	24,099	27,046	27,438	18,814	20,776	21,024	22,770	22,386
Hospital	3,099	3,291	3,478	3,791	2,910	2,875	2,940	3,036	3,193	2,376
Other ¹	17,480	19,199	20,919	22,476	23,723	16,195	17,153	18,255	18,926	19,360
Highways and streets	36,991	38,190	40,875	44,817	44,131	35,805	35,020	36,157	38,281	37,014
Conservation and development ..	1,988	2,201	2,167	2,296	1,974	1,872	1,997	1,922	1,964	1,677
Sewer systems	8,700	9,435	10,433	10,463	10,398	8,199	8,557	9,260	8,951	8,835
Water supply facilities	4,647	5,283	5,964	6,339	6,675	4,237	4,695	5,187	5,393	5,586
Miscellaneous nonbuilding ²	9,125	10,140	10,097	11,364	10,316	8,719	9,252	8,954	9,719	8,709
Federal construction	14,440	15,751	15,368	14,281	14,369	13,569	14,214	13,519	12,109	11,936
Total buildings	5,142	6,043	6,230	6,106	6,003	4,755	5,390	5,430	5,136	4,901
Housing	446	576	681	677	569	406	503	585	565	465
Industrial	1,465	1,508	1,389	998	993	1,358	1,348	1,214	842	811
Educational	26	27	12	19	15	24	24	11	16	12
Hospital	851	1,041	1,159	1,251	978	789	931	1,013	1,053	799
Other ³	2,354	2,891	2,989	3,161	3,448	2,178	2,584	2,608	2,659	2,814
Highways and streets	428	308	368	380	(NA)	414	283	325	325	(NA)
Military facilities	2,318	3,011	2,634	2,620	2,717	2,196	2,728	2,317	2,223	2,250
Conservation and development ..	4,376	4,167	3,845	3,362	3,579	4,124	3,781	3,412	2,877	3,040
Miscellaneous public ⁴	2,176	2,223	2,291	1,812	1,676	2,080	2,032	2,034	1,548	1,415

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																		
April 1998	181,414	142,960	80,009	58,306	50,614	7,692	51,225	9,603	11,250	4,103	14,371	1,916	2,844	4,355	2,783	(NA)	3,725	693
April 1999	199,700	158,984	91,229	68,640	60,107	8,533	55,761	8,697	14,097	5,347	15,457	2,199	2,608	4,162	3,194	(NA)	(NA)	801
Percent change	10	11	14	18	19	11	9	-9	25	30	8	15	-8	-4	15	(NA)	(NA)	16
MONTHLY DATA																		
1997: 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	61,421	47,059	28,451	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	63,574	48,561	29,125	20,253	18,173	2,080	15,274	2,748	3,224	1,323	4,521	585	875	1,194	804	(NA)	1,038	233
September	63,823	48,272	28,585	20,410	18,236	2,174	15,504	2,780	3,351	1,372	4,611	597	789	1,197	807	(NA)	1,071	250
October	61,835	47,841	28,273	20,228	17,995	2,233	15,527	2,610	3,504	1,403	4,698	616	752	1,136	807	(NA)	1,171	235
November	57,780	45,503	26,722	19,677	17,581	2,097	15,205	2,548	3,619	1,279	4,505	615	729	1,113	797	(NA)	1,029	232
December	51,601	40,839	23,043	17,103	15,122	1,981	14,611	2,542	3,509	1,242	4,159	584	689	1,103	783	(NA)	1,090	221
1999: January	46,007	36,767	20,973	15,866	13,972	1,894	12,986	2,147	3,275	1,200	3,530	556	558	975	745	(NA)	863	164
February ^f	45,723	36,171	20,032	15,315	13,269	2,046	13,618	2,139	3,477	1,288	3,725	535	604	1,058	794	(NA)	861	176
March ^f	52,385	41,884	24,148	18,362	16,076	2,286	14,538	2,291	3,641	1,413	4,056	556	695	1,059	827	(NA)	1,175	223
April ^p	55,584	44,161	26,076	19,097	16,790	2,308	14,619	2,121	3,704	1,446	4,147	552	751	1,070	828	(NA)	(NA)	239
PERCENT CHANGE																		
March 1999- April 1999	6	5	8	4	4	1	1	-7	2	2	2	-1	8	1	(Z)	(NA)	(NA)	7

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													
April 1998	38,455	18,972	1,481	331	7,592	1,291	8,277	9,098	854	1,584	2,863	1,873	3,211
April 1999	40,716	19,108	1,230	294	8,300	1,281	8,001	10,134	771	1,775	3,236	2,126	3,566
Percent change	6	1	-17	-11	9	-1	-3	11	-10	12	13	14	11
MONTHLY DATA													
1997: 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	14,362	6,042	435	85	2,841	301	2,380	4,859	294	479	932	604	1,152
August	15,013	6,156	397	87	2,899	300	2,473	5,337	262	500	970	581	1,206
September	15,551	6,103	384	106	2,667	379	2,566	5,399	246	766	1,028	657	1,353
October	13,993	5,504	363	57	2,354	341	2,389	5,187	186	379	1,032	675	1,031
November	12,277	5,238	370	90	2,117	309	2,352	3,698	215	464	1,006	642	1,014
December	10,762	5,022	346	79	2,125	301	2,172	2,741	219	424	877	575	903
1999: January	9,240	4,488	302	65	1,966	302	1,852	2,101	164	393	783	491	821
February ^f	9,553	4,639	292	69	1,978	356	1,944	2,202	188	446	737	511	830
March ^f	10,501	4,901	300	85	2,090	321	2,105	2,674	192	467	847	539	881
April ^p	11,423	5,079	336	77	2,265	302	2,099	3,157	227	470	870	586	1,034
PERCENT CHANGE													
March 1999- April 1999	9	4	12	-9	8	-6	(Z)	18	18	1	3	9	17

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		
			Residential buildings						Nonresidential buildings								Public utilities ⁴			
			Total ¹	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													
1997:	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	658,673	511,514	299,300	212,647	188,869	23,779	169,441	28,616	37,739	15,108	50,571	6,558	8,041	13,405	9,402	(NA)	11,957	2,428	
	August	663,300	516,601	300,612	213,132	189,962	23,170	172,237	32,302	37,415	15,386	48,828	6,534	8,710	13,760	9,301	(NA)	12,079	2,538	
	September	670,133	521,050	304,993	216,614	191,789	24,826	172,349	30,300	38,589	16,188	48,964	6,426	8,941	13,775	9,167	(NA)	12,118	2,701	
	October	668,287	523,642	306,264	219,213	193,841	25,372	174,215	29,246	40,784	16,445	50,202	6,448	8,998	13,034	9,058	(NA)	12,784	2,527	
	November	670,996	525,453	307,259	223,473	198,464	25,009	176,680	30,011	42,163	15,231	51,481	6,638	9,099	12,843	9,213	(NA)	12,120	2,658	
	December	679,428	531,004	311,529	228,258	203,213	25,046	179,028	28,971	43,274	14,874	52,759	6,732	9,382	13,287	9,748	(NA)	11,968	2,814	
1999:	January	691,050	537,969	317,630	232,038	205,974	26,064	177,639	28,659	43,326	16,236	51,039	7,619	8,219	12,422	10,120	(NA)	13,237	2,228	
	February ^f	705,563	545,968	319,741	235,759	208,143	27,616	184,222	28,803	45,015	16,494	53,719	7,297	8,832	13,386	10,678	(NA)	12,405	2,596	
	March ^f	714,789	556,346	327,888	241,207	212,458	28,748	184,151	28,752	44,862	16,852	54,139	7,122	9,313	13,115	9,995	(NA)	13,942	2,961	
	April ^p	697,359	545,692	324,664	238,857	210,971	27,885	178,631	26,675	44,314	16,574	52,108	7,101	9,357	12,879	9,623	(NA)	(NA)	3,039	
PERCENT CHANGE																				
	March 1999-																			
	April 1999	-2	-2	-1	-1	-1	-3	-3	-7	-1	-2	-4	(Z)	(Z)	-2	-4	(NA)	(NA)	3	

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						
1997:	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	147,159	65,332	5,140	1,003	28,067	3,577	27,545	43,809	3,325	5,475	10,298	6,660	12,260
	August	146,699	65,126	4,655	1,063	27,268	3,749	28,392	44,291	3,187	5,442	10,268	6,420	11,965
	September	149,083	64,572	3,930	947	28,119	3,780	27,796	45,719	2,325	5,904	10,510	7,175	12,878
	October	144,644	63,261	4,077	795	27,287	4,098	27,004	45,166	2,568	5,146	10,609	6,814	11,079
	November	145,544	63,275	4,262	1,125	26,973	3,771	27,143	43,721	2,502	5,643	11,339	6,999	12,064
	December	148,425	64,992	4,264	940	29,134	3,566	27,088	44,269	2,608	5,539	11,417	7,302	12,298
1999:	January	153,080	62,934	3,966	849	28,564	3,940	25,616	50,434	2,060	5,859	11,665	7,276	12,854
	February ^f	159,595	65,475	4,077	914	29,340	4,684	26,460	53,053	2,764	6,398	11,389	7,525	12,990
	March ^f	158,443	65,141	3,936	1,024	29,270	3,871	27,041	52,947	2,278	6,134	11,538	7,580	12,825
	April ^p	151,667	63,587	4,122	948	29,419	3,737	25,361	47,716	2,747	5,994	11,171	7,367	13,085
PERCENT CHANGE														
	March 1999- April 1999	-4	-2	5	-7	1	-3	-6	-10	21	-2	-3	-3	2

NA Not available, but estimates are included in totals. ^pPreliminary. ^rRevised. ^zLess 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												
1997:	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	541,909	419,544	245,127	174,158	154,683	19,475	138,319	23,360	30,807	12,333	41,283	5,354	6,564	10,942	7,675	(NA)	10,015	2,053
	August	543,157	421,852	245,198	173,843	154,944	18,899	139,916	26,241	30,394	12,499	39,666	5,308	7,075	11,178	7,556	(NA)	10,066	2,135
	September	547,336	424,421	248,163	176,252	156,053	20,200	139,667	24,554	31,271	13,118	39,679	5,208	7,245	11,163	7,429	(NA)	10,064	2,264
	October	543,520	424,536	247,786	177,356	156,829	20,527	140,609	23,604	32,917	13,273	40,518	5,204	7,262	10,519	7,311	(NA)	10,734	2,120
	November	543,465	423,783	246,794	179,496	159,409	20,088	142,140	24,144	33,920	12,253	41,417	5,341	7,320	10,333	7,412	(NA)	10,280	2,235
	December	548,339	426,564	249,024	182,461	162,440	20,021	143,567	23,233	34,702	11,928	42,309	5,399	7,524	10,655	7,817	(NA)	10,220	2,364
1999:	January	557,502	431,721	253,294	185,038	164,254	20,785	142,453	22,982	34,744	13,020	40,929	6,110	6,591	9,961	8,116	(NA)	11,401	1,876
	February ^f	568,917	437,748	254,571	187,706	165,719	21,987	147,733	23,098	36,099	13,227	43,078	5,851	7,082	10,735	8,563	(NA)	10,740	2,187
	March ^f	575,101	445,264	260,642	191,738	168,886	22,852	147,320	23,002	35,890	13,482	43,311	5,697	7,451	10,492	7,996	(NA)	12,050	2,486
	April ^g	559,812	435,641	257,261	189,268	167,172	22,096	142,677	21,306	35,394	13,238	41,620	5,672	7,474	10,286	7,686	(NA)	(NA)	2,552
PERCENT CHANGE																			
	March 1999- April 1999	-3	-2	-1	-1	-1	-3	-3	-7	-1	-2	-4	(Z)	(Z)	-2	-4	(NA)	(NA)	3

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						
1997:	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	122,365	53,346	4,210	819	22,912	2,920	22,486	36,907	2,757	4,648	8,742	5,601	10,364
	August	121,305	52,921	3,797	863	22,151	3,045	23,065	37,033	2,625	4,604	8,687	5,373	10,063
	September	122,915	52,340	3,198	767	22,787	3,063	22,525	38,036	1,909	4,982	8,869	5,984	10,795
	October	118,984	51,066	3,298	642	22,024	3,308	21,795	37,514	2,103	4,361	8,990	5,655	9,294
	November	119,682	50,900	3,424	905	21,700	3,034	21,837	36,344	2,046	4,802	9,650	5,794	10,146
	December	121,775	52,108	3,408	754	23,363	2,860	21,722	36,738	2,127	4,718	9,725	6,024	10,334
1999:	January	125,781	50,450	3,163	681	22,906	3,159	20,542	41,888	1,680	4,995	9,944	6,003	10,820
	February ^f	131,169	52,483	3,246	733	23,529	3,756	21,219	44,101	2,257	5,459	9,718	6,209	10,943
	March ^f	129,837	52,093	3,128	819	23,416	3,097	21,633	43,866	1,853	5,216	9,811	6,228	10,769
	April ^p	124,171	50,762	3,266	757	23,497	2,985	20,256	39,533	2,235	5,097	9,499	6,059	10,986
PERCENT CHANGE														
	March 1999- April 1999	-4	-3	4	-8	(Z)	-4	-6	-10	21	-2	-3	-3	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 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																		
April 1998	150,652	118,461	66,213	48,253	41,886	6,365	42,347	7,939	9,299	3,392	11,880	1,585	2,351	3,600	2,302	(NA)	3,114	589
April 1999	160,623	127,283	72,532	54,574	47,790	6,784	44,642	6,963	11,286	4,280	12,375	1,760	2,088	3,332	2,557	(NA)	(NA)	674
Percent change	7	7	10	13	14	7	5	-12	21	26	4	11	-11	-7	11	(NA)	(NA)	14
MONTHLY DATA																		
1997: 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	50,552	38,602	23,301	16,210	14,527	1,683	11,988	1,960	2,647	1,028	3,709	437	662	888	656	(NA)	870	181
August	52,086	39,661	23,756	16,519	14,823	1,696	12,407	2,233	2,619	1,075	3,672	475	710	970	653	(NA)	865	196
September	52,162	39,326	23,259	16,607	14,838	1,769	12,564	2,253	2,715	1,112	3,736	484	639	970	654	(NA)	890	209
October	50,314	38,790	22,874	16,365	14,559	1,806	12,531	2,107	2,828	1,133	3,792	497	607	917	651	(NA)	983	197
November	46,796	36,698	21,464	15,805	14,121	1,684	12,232	2,050	2,912	1,029	3,624	494	586	895	641	(NA)	873	195
December	41,636	32,814	18,420	13,672	12,088	1,583	11,717	2,039	2,814	996	3,335	468	552	884	628	(NA)	931	186
1999: January	37,077	29,503	16,725	12,652	11,142	1,510	10,414	1,722	2,626	962	2,831	446	448	782	597	(NA)	743	138
February ^f	36,830	28,998	15,949	12,193	10,565	1,629	10,921	1,715	2,789	1,033	2,987	429	484	848	636	(NA)	746	149
March ^f	42,113	33,523	19,195	14,596	12,779	1,817	11,630	1,832	2,913	1,130	3,245	444	556	847	662	(NA)	1,015	187
April ^p	44,603	35,259	20,663	15,133	13,304	1,828	11,677	1,694	2,958	1,155	3,312	441	600	855	662	(NA)	(NA)	200
PERCENT CHANGE																		
March 1999- April 1999	6	5	8	4	4	1	(Z)	-8	2	2	2	-1	8	1	(Z)	(NA)	(NA)	7

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													
April 1998	32,191	15,685	1,225	274	6,276	1,067	6,842	7,690	713	1,353	2,444	1,579	2,727
April 1999	33,341	15,291	978	236	6,644	1,025	6,405	8,406	628	1,513	2,754	1,752	2,998
Percent change	4	-3	-20	-14	6	-4	-6	9	-12	12	13	11	10
MONTHLY DATA													
1997: 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	11,950	4,934	356	69	2,320	246	1,943	4,094	244	407	791	508	974
August	12,425	5,002	324	71	2,355	244	2,009	4,462	216	423	821	486	1,015
September	12,836	4,947	313	86	2,161	307	2,079	4,491	202	647	868	548	1,134
October	11,524	4,443	294	46	1,900	275	1,928	4,308	152	321	874	560	865
November	10,099	4,214	297	73	1,703	248	1,892	3,074	176	395	856	531	853
December	8,822	4,027	276	64	1,704	242	1,742	2,275	179	361	747	474	759
1999: January	7,574	3,598	241	52	1,577	242	1,485	1,745	134	335	667	405	691
February ^f	7,832	3,718	233	55	1,586	285	1,559	1,830	154	381	628	422	699
March ^f	8,591	3,920	238	68	1,672	257	1,684	2,215	156	397	720	443	740
April ^p	9,344	4,055	266	61	1,809	241	1,677	2,616	184	400	739	482	868
PERCENT CHANGE													
March 1999- April 1999	9	3	12	-10	8	-6	(Z)	18	18	1	3	9	17

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					
1997:	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	13,031	5,482	374	2,840	217	2,051	4,815	164	932	604	1,034
	August	13,767	5,657	340	2,896	219	2,202	5,288	182	970	581	1,090
	September	13,758	5,426	330	2,664	242	2,191	5,352	173	1,028	657	1,123
	October	13,049	5,072	330	2,353	253	2,136	5,141	186	1,032	675	944
	November	11,059	4,762	322	2,117	246	2,077	3,665	147	1,006	642	837
	December	9,544	4,522	305	2,123	247	1,847	2,716	129	877	575	725
1999:	January	8,262	4,078	272	1,964	215	1,628	2,084	146	783	491	680
	February ^f	8,437	4,175	261	1,977	229	1,708	2,186	133	737	511	696
	March ^f	9,394	4,445	263	2,090	236	1,857	2,655	135	847	539	773
	April ^p	10,271	4,643	303	2,264	236	1,840	3,131	176	870	586	866
		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
1997:	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	1,331	560	61	85	2	84	329	(NA)	294	315	118
	August	1,246	499	57	87	3	81	271	(NA)	262	319	116
	September	1,794	677	55	106	3	138	375	(NA)	246	594	230
	October	944	432	34	57	-	88	253	(NA)	186	193	86
	November	1,218	476	48	90	1	63	275	(NA)	215	316	178
	December	1,218	501	41	79	1	55	325	(NA)	219	295	178
1999:	January	978	410	30	65	3	87	225	(NA)	164	246	141
	February ^f	1,116	464	31	69	1	127	237	(NA)	188	313	135
	March ^f	1,107	456	37	85	1	85	248	(NA)	192	331	108
	April ^p	1,152	437	33	77	1	67	260	(NA)	227	294	168

- Less than \$0.5 million. 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 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					
1997:	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	131,673	58,721	4,420	28,048	2,585	23,668	43,412	1,723	10,298	6,660	10,859
	August	132,024	59,056	3,960	27,238	2,763	25,095	43,885	1,770	10,268	6,420	10,626
	September	134,541	58,539	3,442	28,093	2,551	24,452	45,321	1,734	10,510	7,175	11,263
	October	130,961	57,261	3,608	27,285	2,877	23,492	44,766	1,891	10,609	6,814	9,620
	November	130,616	57,337	3,666	26,966	2,988	23,718	43,331	1,739	11,339	6,999	9,870
	December	133,456	59,049	3,780	29,120	2,918	23,231	43,865	1,784	11,417	7,302	10,039
1999:	January	139,674	57,543	3,567	28,525	2,790	22,661	50,026	2,333	11,665	7,276	10,832
	February ^f	144,178	59,305	3,663	29,331	2,999	23,312	52,667	2,134	11,389	7,525	11,158
	March ^f	144,809	59,632	3,488	29,261	2,844	24,039	52,570	2,011	11,538	7,580	11,477
	April ^p	137,180	58,170	3,710	29,405	2,910	22,144	47,323	2,220	11,171	7,367	10,929
		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
1997:	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	15,487	6,611	720	1,003	19	992	3,877	(NA)	3,325	3,753	1,401
	August	14,675	6,071	694	1,063	30	986	3,297	(NA)	3,187	3,671	1,339
	September	14,542	6,033	488	947	26	1,229	3,343	(NA)	2,325	4,170	1,616
	October	13,683	6,000	469	795	3	1,221	3,513	(NA)	2,568	3,256	1,458
	November	14,928	5,938	596	1,125	7	783	3,425	(NA)	2,502	3,904	2,194
	December	14,969	5,943	484	940	14	648	3,856	(NA)	2,608	3,755	2,259
1999:	January	13,406	5,391	399	849	38	1,150	2,955	(NA)	2,060	3,526	2,022
	February ^f	15,417	6,170	414	914	9	1,686	3,148	(NA)	2,764	4,265	1,832
	March ^f	13,634	5,509	447	1,024	10	1,027	3,002	(NA)	2,278	4,123	1,348
	April ^p	14,488	5,417	412	948	14	827	3,217	(NA)	2,747	3,775	2,156

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					
1997:	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	109,505	47,947	3,620	22,897	2,110	19,321	36,573	1,463	8,742	5,601	9,179
	August	109,174	47,987	3,230	22,127	2,244	20,386	36,693	1,498	8,687	5,373	8,937
	September	110,911	47,450	2,801	22,766	2,067	19,815	37,705	1,463	8,869	5,984	9,441
	October	107,722	46,223	2,919	22,022	2,322	18,960	37,181	1,602	8,990	5,655	8,071
	November	107,368	46,124	2,945	21,694	2,404	19,081	36,019	1,480	9,650	5,794	8,301
	December	109,451	47,343	3,021	23,352	2,340	18,630	36,403	1,520	9,725	6,024	8,436
1999:	January	114,733	46,129	2,845	22,875	2,237	18,172	41,549	1,989	9,944	6,003	9,118
	February ^f	118,464	47,537	2,916	23,521	2,405	18,694	43,780	1,821	9,718	6,209	9,400
	March ^f	118,629	47,688	2,773	23,409	2,275	19,231	43,555	1,710	9,811	6,228	9,637
	April ^p	112,267	46,438	2,940	23,487	2,325	17,687	39,207	1,887	9,499	6,059	9,176
		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
1997:	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	12,860	5,399	589	819	15	810	3,165	(NA)	2,757	3,186	1,185
	August	12,131	4,934	566	863	25	801	2,679	(NA)	2,625	3,106	1,126
	September	12,004	4,891	397	767	21	996	2,709	(NA)	1,909	3,519	1,355
	October	11,262	4,844	379	642	2	985	2,835	(NA)	2,103	2,759	1,223
	November	12,314	4,776	479	905	6	630	2,756	(NA)	2,046	3,322	1,845
	December	12,324	4,765	387	754	11	520	3,093	(NA)	2,127	3,199	1,898
1999:	January	11,048	4,321	318	681	31	922	2,370	(NA)	1,680	3,006	1,702
	February ^f	12,705	4,946	329	733	7	1,352	2,524	(NA)	2,257	3,639	1,543
	March ^f	11,208	4,405	355	819	8	822	2,401	(NA)	1,853	3,506	1,132
	April ^p	11,905	4,324	326	757	11	660	2,569	(NA)	2,235	3,210	1,810

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 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					
1997:	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	10,845	4,476	306	2,318	177	1,674	4,057	139	791	508	874
	August	11,395	4,596	277	2,353	178	1,789	4,421	154	821	486	917
	September	11,352	4,398	268	2,159	196	1,775	4,452	146	868	548	941
	October	10,748	4,094	267	1,899	204	1,724	4,270	157	874	560	792
	November	9,094	3,831	259	1,703	198	1,671	3,047	125	856	531	704
	December	7,820	3,625	244	1,703	198	1,481	2,254	110	747	474	609
1999:	January	6,769	3,269	217	1,575	172	1,305	1,731	125	667	405	572
	February ^f	6,913	3,347	208	1,586	184	1,369	1,817	113	628	422	586
	March ^f	7,682	3,555	209	1,672	189	1,486	2,200	115	720	443	649
	April ^P	8,398	3,706	240	1,808	188	1,469	2,594	150	739	482	727
		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
1997:	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	1,105	458	50	69	1	69	268	(NA)	244	267	99
	August	1,030	406	47	71	2	66	220	(NA)	216	270	98
	September	1,484	549	45	86	2	112	304	(NA)	202	501	193
	October	776	349	27	46	-	71	204	(NA)	152	163	72
	November	1,005	383	38	73	-	51	221	(NA)	176	269	149
	December	1,002	401	33	64	1	44	261	(NA)	179	251	149
1999:	January	805	328	24	52	2	70	180	(NA)	134	210	119
	February ^f	919	372	25	55	1	102	190	(NA)	154	267	113
	March ^f	909	365	29	68	1	68	199	(NA)	156	282	91
	April ^P	946	349	26	61	1	53	207	(NA)	184	250	141

- Less than \$0.5 million. 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 11. Indexes Used in Deriving Estimates of the Value of Construction Put in Place in Constant Dollars

[1992 = 100]

Period	U.S. Census Bureau		Engineering News-Record		U.S. Census Bureau 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													
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
1998.....	121.7	121.7	119.7	118.8	122.7	122.2	121.8	118	122	123	117	117	119	119
	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.....	121.9	121.5	119.4	118.8	123.1	122.1								
August.....	122.4	122.1	119.7	118.9	123.4	122.6	130.2	118	123					
September.....	122.4	122.4	120.5	119.6	123.2	122.9				122	117	117	119	120
October.....	122.7	122.9	120.8	120.1	123.7	123.6								
November.....	123.2	123.5	120.8	120.3	124.6	124.5	125.0	119	124					
December.....	124.0	123.9	120.7	120.2	125.7	125.1								
1999: January.....	124.1	124.1	120.9	120.4	126.1	125.4								
February.....	^r 124.5	^r 124.1	120.6	120.2	^r 126.8	^r 125.6	(NA)	118	125					
March.....	^r 124.7	^r 124.4	120.4	120.1	^r 127.0	^r 125.8				125	119	119	121	117
April.....	^p 124.7	^p 124.6	120.7	120.5	^p 127.0	^p 126.2								
May.....			120.8	120.5			(NA)	(NA)	(NA)					

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	Apr. 1999 ^P	Mar. 1999 ^r	Feb. 1999 ^r	Jan. 1999	Dec. 1998	Nov. 1998	Oct. 1998	Sep. 1998	Aug. 1998	July 1998	June 1998	Apr. 1998
PRIVATE CONSTRUCTION												
Residential buildings:												
New housing units:												
1 unit	95.5	90.8	76.5	81.4	89.3	106.3	111.4	114.1	114.8	112.7	107.9	95.0
2 units or more.....	99.3	95.4	88.9	87.2	94.9	100.6	105.6	105.1	107.7	103.7	107.1	99.0
Nonresidential buildings:												
Industrial	95.4	95.6	89.1	89.9	105.3	101.9	107.1	110.1	102.1	100.7	103.9	95.8
Office	100.3	97.4	92.7	90.7	97.3	103.0	103.1	104.2	103.4	103.1	104.1	99.2
Hotels, motels	104.7	100.6	93.7	88.7	100.2	100.8	102.4	101.7	103.2	100.0	107.8	104.3
Other commercial	95.5	89.9	83.2	83.0	94.6	105.0	112.3	113.0	111.1	107.8	106.1	94.5
Religious	93.3	93.6	88.0	87.6	104.1	111.1	114.6	111.5	107.5	98.0	97.2	93.9
Educational.....	96.3	89.6	82.0	81.5	88.1	96.1	100.3	105.9	120.5	121.1	116.8	95.8
Hospital and institutional	99.7	96.9	94.8	94.2	99.6	104.0	104.6	104.3	104.1	97.4	100.2	99.2
Miscellaneous nonresidential	103.3	99.3	89.2	88.3	96.4	103.8	106.9	105.6	103.7	102.6	102.6	103.5
Telecommunications	99.7	101.1	83.3	78.2	109.3	101.9	109.9	106.1	103.1	104.2	107.9	98.9
All other private	94.2	90.2	81.5	88.1	94.3	104.8	111.8	111.0	110.1	105.9	104.5	93.1
PUBLIC CONSTRUCTION												
State and Local												
Buildings:												
Housing and redevelopment	98.0	90.3	85.6	91.5	96.8	105.4	109.6	114.9	102.9	101.5	97.7	94.5
Educational.....	92.4	85.7	80.9	82.6	87.5	94.2	103.5	113.8	127.6	121.5	113.0	92.1
Hospital	97.1	99.7	91.6	92.4	101.4	98.8	105.6	113.6	95.0	100.8	105.6	97.5
Other buildings.....	99.7	92.7	87.9	86.2	95.4	105.1	109.1	107.5	105.3	104.0	107.2	98.3
Highways and streets	79.4	60.6	49.8	50.0	74.3	101.5	137.8	141.7	144.6	133.1	124.2	79.7
Conservation and development	95.1	80.8	74.8	75.3	86.7	101.7	117.8	119.6	123.1	114.3	110.0	95.2
Sewer systems.....	93.4	88.1	77.6	80.5	92.2	106.5	116.7	117.4	113.4	108.6	107.2	94.5
Water supply facilities.....	95.4	85.3	81.5	80.9	94.5	110.0	118.9	109.8	108.5	108.8	104.8	95.1
Miscellaneous construction	95.1	80.8	74.8	75.3	86.7	101.7	117.8	119.6	123.1	114.3	110.0	95.2
Federal												
Buildings:												
Housing and redevelopment	96.8	99.3	90.2	91.2	101.1	96.2	86.5	134.7	98.7	101.7	103.2	99.2
Industrial	96.8	99.3	90.2	91.2	101.1	96.2	86.5	134.7	98.7	101.7	103.2	99.2
Educational.....	96.8	99.3	90.2	91.2	101.1	96.2	86.5	134.7	98.7	101.7	103.2	99.2
Hospital	96.8	99.3	90.2	91.2	101.1	96.2	86.5	134.7	98.7	101.7	103.2	99.2
Other buildings.....	96.8	99.3	90.2	91.2	101.1	96.2	86.5	134.7	98.7	101.7	103.2	99.2
Military	99.0	101.2	81.7	95.7	100.9	103.1	87.0	127.0	98.8	106.0	102.0	90.3
Conservation and development	93.5	96.4	88.1	83.8	94.3	97.2	71.1	170.8	104.2	100.7	100.7	94.3
Miscellaneous construction	93.5	96.4	88.1	83.8	94.3	97.2	71.1	170.8	104.2	100.7	100.7	94.3

^PPreliminary. ^rRevised.

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 (k1 or k2) 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. Nonsampling 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	2	1	.03	.03
Private construction	3	2	1	.04	.03
Residential buildings	5	4	2	.06	.05
New housing units	2	2	1	.01	.02
1 unit structures	2	2	2	.01	.02
2 units or more	4	4	3	.03	.04
Nonresidential buildings	2	2	1	.02	.03
Industrial	3	3	2	.04	.04
Office	4	3	2	.05	.04
Hotels, motels	7	6	5	.09	.08
Other commercial	5	3	2	.06	.04
Religious	9	8	5	.12	.11
Educational	7	6	5	.10	.09
Hospital and institutional	6	6	5	.07	.08
Miscellaneous buildings	7	6	4	.09	.09
Public construction	2	1	1	.03	.01
Housing and redevelopment	8	5	4	.11	.07
Industrial	(NA)	(NA)	(NA)	(NA)	(NA)
Educational	3	3	2	.04	.04
Hospital	6	6	4	.08	.09
Other public buildings	3	2	2	.04	.03
Highways and streets	4	3	2	.05	.04
Military facilities	(NA)	(NA)	(NA)	(NA)	(NA)
Conservation and development	4	3	2	.06	.04
Sewer systems	6	4	3	.08	.06
Water supply facilities	8	5	3	.11	.07
Miscellaneous public	8	5	4	.11	.07
State and local construction	2	1	1	.03	.01
Housing and redevelopment	8	5	5	.11	.07
Educational	3	3	2	.04	.04
Hospital	8	7	5	.11	.10
Other public buildings	4	3	2	.05	.04
Highways and streets	4	3	2	.05	.04
Conservation and development	16	11	9	.23	.16
Sewer systems	6	4	3	.08	.06
Water supply facilities	8	5	3	.11	.07
Miscellaneous public	9	6	4	.12	.09
Federal construction	(NA)	(NA)	(NA)	(NA)	(NA)

NA Not available.

Note: All statistics are based upon 1998 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.