

Commercial and Institutional Building Construction: 2002

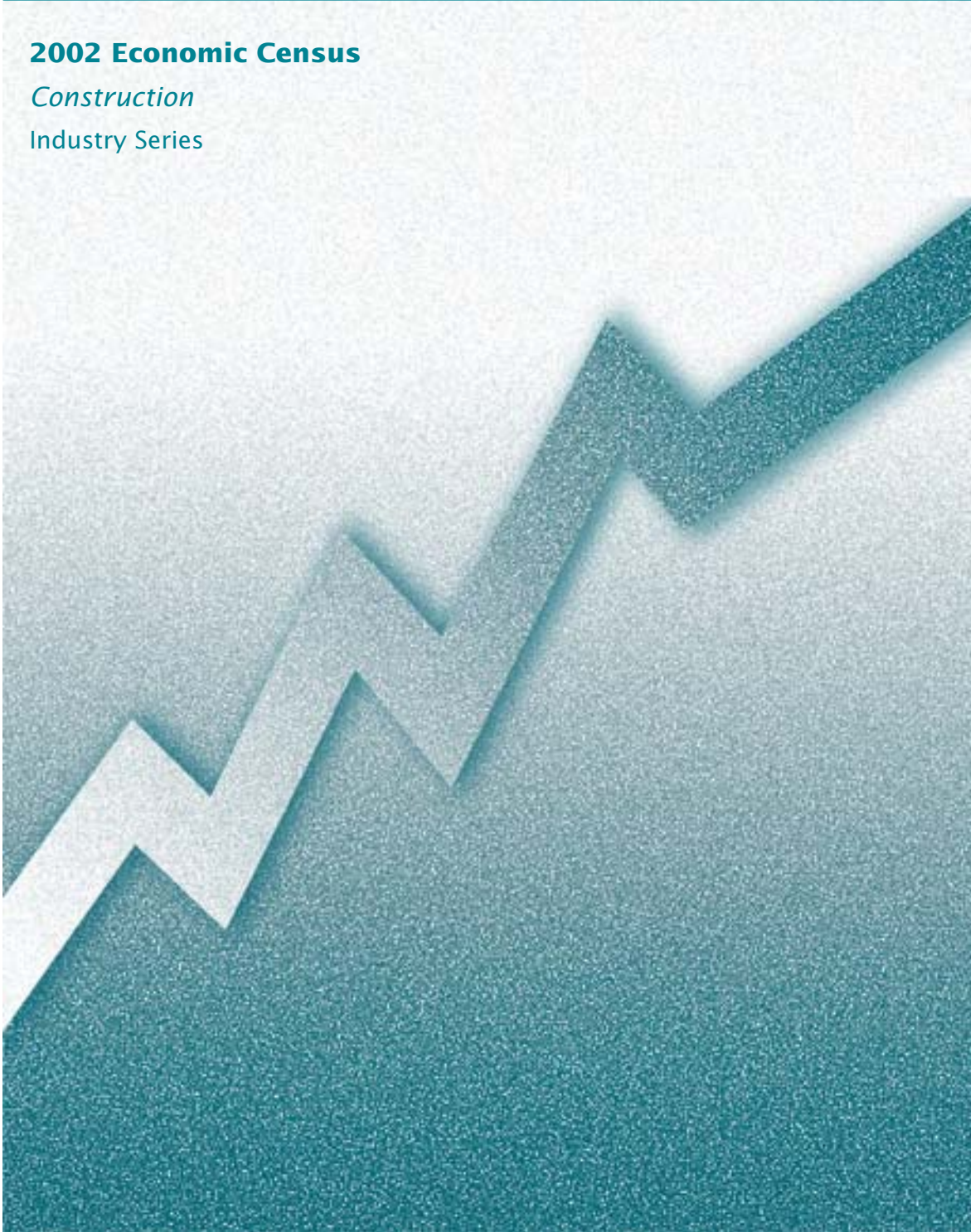
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2002 Economic Census

Construction

Industry Series



U S C E N S U S B U R E A U

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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in "2" and "7."

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the federal government use the data to monitor economic activity and to assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

INDUSTRY CLASSIFICATIONS

Data from the 2002 Economic Census are published primarily according to the 2002 North American Industry Classification System (NAICS). NAICS was first adopted in the United States, Canada, and Mexico in 1997. The 2002 Economic Census covers the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information
52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Food Services
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), largely covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 100 subsectors (three-digit codes), 317 industry groups (four-digit codes), and, as implemented in the United States, 1,179 industries (six-digit codes).

RELATIONSHIP TO HISTORICAL INDUSTRY CLASSIFICATIONS

Prior to the 1997 Economic Census, data were published according to the Standard Industrial Classification (SIC) system. While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The 1997 Economic Census *Bridge Between NAICS and SIC* demonstrates the relationships between NAICS and SIC industries. Where changes are significant, it may not be possible to construct time series that include data for points both before and after 1997.

Most industry classifications remained unchanged between 1997 and 2002, but NAICS 2002 includes substantial revisions within the construction and wholesale trade sectors, and a number of revisions for the retail trade and information sectors. These changes are noted in industry definitions and will be demonstrated in the *Bridge Between NAICS 2002 and NAICS 1997*.

For 2002, data for enterprise support establishments (those functioning primarily to support the activities of their company's operating establishments, such as a warehouse or a research and development laboratory) are included in the industry that reflects their activities (such as warehousing). For 1997, such establishments were termed auxiliaries and were excluded from industry totals.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company. (For selected industries, only payroll, employment, and classification are collected for individual establishments, while other data are collected on a consolidated basis.)

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for states, metropolitan and micropolitan statistical areas, counties, and corporate municipalities (places) including cities, towns, townships, villages, and boroughs. Respondents were required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from administrative sources is used as a basis for coding.

AVAILABILITY OF ADDITIONAL DATA

All results of the 2002 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on digital versatile discs (DVD-ROMs) for sale by the Census Bureau. The American FactFinder system at the Internet site allows selective retrieval and downloading of the data. For more information, including a description of reports being issued, see the Internet site, write to the U.S. Census Bureau, Washington, DC 20233-6100, or call Customer Services at 301-763-4100.

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart

from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some service trades in 1933. Censuses of construction, manufacturing, and the other business censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated, providing comparable census data across economic sectors and using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census report forms.

The range of industries covered in the economic census expanded between 1967 and 2002. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity. New for 2002 is coverage of four industries classified in the agriculture, forestry, and fishing sector under the SIC system: landscape architectural services, landscaping services, veterinary services, and pet care services.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. Reports for 1997 were published primarily on the Internet and copies of 1992 reports are also available there. CD-ROMs issued from the 1987, 1992, and 1997 Economic Censuses contain databases that include all or nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for the 2002 Economic Census and related surveys is published in the *Guide to the 2002 Economic Census* at www.census.gov/econ/census02/guide. More information on the methodology, procedures, and history of the census will be published in the *History of the 2002 Economic Census* at www.census.gov/econ/www/history.html.

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Construction

SCOPE

The Construction sector (sector 23) comprises establishments primarily engaged in the construction of buildings or engineering projects (e.g., highways and utility systems). Establishments primarily engaged in the preparation of sites for new construction and establishments primarily engaged in subdividing land for sale, as building sites also are included in this sector.

Construction work done may include new work, additions, alterations, or maintenance and repairs. Activities of these establishments generally are managed at a fixed place of business, but they usually perform construction activities at multiple project sites. Production responsibilities for establishments in this sector are usually specified in (1) contracts with the owners of construction projects (prime contracts) or (2) contracts with other construction establishments (subcontracts).

Establishments primarily engaged in contracts that include responsibility for all aspects of individual construction projects are commonly known as general contractors, but also may be known as design-builders, construction managers, turnkey contractors, or (in cases where two or more establishments jointly secure a general contract) joint-venture contractors. Construction managers that provide oversight and scheduling only (i.e., agency) as well as construction managers that are responsible for the entire project (i.e., at risk) are included as general contractor type establishments. Establishments of the "general contractor type" frequently arrange construction of separate parts of their projects through subcontracts with other construction establishments.

Establishments primarily engaged in activities to produce a specific component (e.g., masonry, painting, and electrical work) of a construction project are commonly known as specialty trade contractors. Activities of specialty trade contractors are usually subcontracted from other construction establishments but, especially in remodeling and repair construction, the work may be done directly for the owner of the property.

Establishments primarily engaged in activities to construct buildings to be sold on sites that they own are known as operative builders, but also may be known as speculative builders or merchant builders. Operative builders produce buildings in a manner similar to general contractors, but their production processes also include site acquisition and securing of financial backing. Operative builders are most often associated with the construction of residential buildings. Like general contractors, they may subcontract all or part of the actual construction work on their buildings.

There are substantial differences in the types of equipment, work force skills, and other inputs required by establishments in this sector. To highlight these differences and variations in the underlying production functions, this sector is divided into three subsectors.

Subsector 236, Construction of Buildings, comprises establishments of the general contractor type and operative builders involved in the construction of buildings. Subsector 237, Heavy and Civil Engineering Construction, comprises establishments involved in the construction of engineering projects. Subsector 238, Specialty Trade Contractors, comprises establishments engaged in specialty trade activities generally needed in the construction of all types of buildings.

Exclusions. Force account construction is construction work performed by an enterprise primarily engaged in some business other than construction for its own account and use, using employees of the enterprise. This activity is not included in the construction sector unless the construction work performed is the primary activity of a separate establishment of the enterprise.

The installation and the ongoing repair and maintenance of telecommunications and utility networks is excluded from construction when the establishments performing the work are not independent contractors. Although a growing proportion of this work is subcontracted to independent contractors in the Construction Sector, the operating units of telecommunications and utility companies performing this work are included with the telecommunications or utility activities.

The tabulations for this sector do not include central administrative offices, warehouses, or other establishments that serve construction establishments within the same organization. Data for such establishments are classified according to the nature of the service they provide. For example, separate headquarters establishments are reported in NAICS Sector 55, Management of Companies and Enterprises.

The reports described below exclude establishments of firms with no paid employees. These “nonemployers,” typically self-employed individuals or partnerships operating businesses that they have not chosen to incorporate, are reported separately in *Nonemployer Statistics*. The contribution of nonemployers, relatively large for this sector, may be examined at www.census.gov/nonemployerimpact.

Definitions. Industry categories are defined in Appendix B, NAICS Codes, Titles, and Descriptions. Other terms are defined in Appendix A, Explanation of Terms.

REPORTS

The following reports provide statistics on this sector.

Industry Series. There are 31 reports, each covering a single NAICS industry (six-digit code). These reports include such statistics as number of establishments, employment, payroll, value added by construction, cost of materials, value of construction work, value of business done, capital expenditures, etc. The industry reports also include selected statistics for states. While most of the state data in the industry series reports are by physical location of the establishment, some data are available by reported location of the construction work. The data in industry reports are preliminary and subject to change in the following reports.

Geographic Area Series. There are 51 separate reports, one for each state and the District of Columbia. Each state report present similar statistics at the “all construction” level for each state.

Subject Series:

- **Industry General Summary.** This report contains industry statistics summarized in one report. It includes higher levels of aggregation than the industry reports, as well as revisions to the data made after the release of the industry reports.
- **Industry Kind Of Business and Type of Construction Summary.** This report contains industry kind of business and types of construction statistics summarized in one report. It includes higher levels of aggregation than the industry reports, as well as revisions to the data made after the release of the industry reports.
- **Geographic Area Summary.** This report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

Other reports. Data for this sector are also included in reports with multisector coverage, including *Nonemployer Statistics*, *Comparative Statistics*, *Bridge Between 2002 NAICS and 1997 NAICS*, *Business Expenses*, and the Survey of Business Owners reports.

GEOGRAPHIC AREAS COVERED

1. The United States as a whole.
2. States and the District of Columbia.

3. Census regions. The regions are made up of groups of states as follows:

- a. Northeast region: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont
- b. Midwest region: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin
- c. South region: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia
- d. West region: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 2002 data are expressed in 2002 dollars, and 1997 data, in 1997 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

COMPARABILITY OF THE 1997 AND 2002 ECONOMIC CENSUSES

Both the 2002 Economic Census and the 1997 Economic Census present data based on the North American Industry Classification System (NAICS). There were substantial revisions made to the entire construction sector, for 2002. These changes are:

1. Each subsector has been reclassified in 2002 to:
 - 236—Construction of Buildings
 - 237—Heavy and Civil Engineering Construction
 - 238—Specialty Trade Contractors
2. Adopted several mining industries:
 - oil and gas pipeline and related structures construction, now in Industry 237120
 - site preparation and related construction activities on a contract or fee basis, now in Industry 238910.

More detailed information of NAICS changes from 1997 to 2002, may be examined at <http://www.census.gov/epcd/naics02/n02ton97.htm>.

In addition, there have been several additional data tables added, which did not exist in 1997. These tables for 2002 include e-commerce value of business done and leased and nonleased detail employment statistics by subsectors. Also included is housing starts by single NAICS industry (six-digit code).

RELIABILITY OF DATA

All data compiled for this sector are subject to nonsampling errors. Nonsampling errors can be attributed to many sources: inability to identify all cases in the actual universe; definition and classification difficulties; differences in the interpretation of questions; errors in recording or coding the data obtained; and other errors of collection, response, coverage, processing, and estimation for missing or misreported data.

No direct measurement of these effects has been obtained except for estimation for missing or misreported data, as by the percentages shown in the tables. Precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize the effects of nonsampling errors. More information on the reliability of the data is included in Appendix C, Methodology.

DISCLOSURE

In accordance with federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments in a specific industry or geographic area is not considered a disclosure; therefore, this information may be released even though other information is withheld. Techniques employed to limit disclosure are discussed at www.census.gov/epcd/ec02/disclosure.htm.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The U.S. Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place contain data related to construction sector census data. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity. The construction sector census data covers both new construction and maintenance and repair work done by establishments classified in the construction industries. Significant amounts of construction are done by establishments classified outside of construction (real estate, manufacturing, utilities, and communications, for example), as both "force account" construction and construction done for others. In addition, the C30 series includes construction-related expenses such as architectural and engineering costs and the costs of materials supplied by owners that are normally not reflected in construction sector census data.

Data contained in the 2002 construction sector may also differ from industry data in Employment and Earnings Statistics, published by the Bureau of Labor Statistics and Statistics of Income, published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

In addition, the County Business Patterns program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county, and Statistics of U.S. Businesses provides annual statistics classified by the employment size of the enterprise, further classified by industry for the United States, and by broader categories for states and metropolitan areas.

CONTACTS FOR DATA USERS

Questions about these data may be directed to the U.S. Census Bureau, Manufacturing & Construction Division, Information Services Center, 301-763-4673 or ask.census.gov.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with these data:

A	Standard error of 100 percent or more
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue
N	Not available or not comparable
S	Withheld because estimates did not meet publication standards
X	Not applicable
Z	Less than half the unit shown
a	0 to 19 employees
b	20 to 99 employees
c	100 to 249 employees
e	250 to 499 employees
f	500 to 999 employees
g	1,000 to 2,499 employees
h	2,500 to 4,999 employees
i	5,000 to 9,999 employees
j	10,000 to 24,999 employees
k	25,000 to 49,999 employees
l	50,000 to 99,999 employees
m	100,000 employees or more

p 10 to 19 percent estimated
q 20 to 29 percent estimated
r Revised
s Sampling error exceeds 40 percent
nsk Not specified by kind
– Represents zero (page image/print only)
(CC) Consolidated city
(IC) Independent city

Table 1. Industry Statistics on 2002 NAICS Basis Distributed Among 1997 NAICS-Based Industries for the United States: 2002

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. Data based on the 2002 Economic Census. For information on confidentiality protection, sampling error, and nonsampling error, see note at end of table. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A. For detailed title descriptions, see Appendix F]

2002 NAICS code	1997 bridge code	Industry or bridge	Number of establishments	Total number of employees	Total payroll	Value of construction work ¹	Net value of construction work	Value added	Cost of materials, components, supplies, and fuels	Capital expenditures, other than land
			A	B	C	D	E	F	G	H
236220		Commercial and institutional building construction	37 208	715 896	29 210 092	241 065 274	108 229 283	71 881 873	38 141 927	1 440 877
	23322000	Multifamily housing construction (pt)	245	7 500	351 759	2 601 992	1 093 724	739 024	377 144	14 795
	23331000	Other manufacturing and industrial building construction (pt)	2 099	32 476	1 313 445	9 714 120	4 486 775	2 470 309	2 222 942	77 365
	23332000	Commercial and institutional building construction	34 588	673 318	27 465 041	228 375 181	102 320 168	68 490 858	35 375 123	1 342 926
	23599000	All other special trade contractors (pt)	277	2 603	79 847	373 982	328 616	181 683	166 718	5 791

¹For the 2002 Economic Census, the definition of value of construction work has been modified from the 1997 Economic Census definition. See Appendix A for the modified definition.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 2. Employment Statistics for Establishments by State: 2002

[Detail may not add to total because of rounding. Data based on the 2002 Economic Census. For information on confidentiality protection, sampling error, nonsampling error, and geographical definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A.]

Location of establishment	Number of establishments	Number of employees		Number of construction workers				Payroll (thousand dollars)		Relative standard error of estimate (percent) for column—		
		Total	Construction workers	January to March	April to June	July to September	October to December	Total	Construction workers			
											A	B
236220, Commercial and institutional building construction												
United States	37 208	715 896	478 923	S	484 745	504 232	478 783	29 210 092	16 516 884	1		
Alabama	633	11 932	8 550	8 601	8 468	8 614	8 518	430 307	257 100	3		
Alaska	178	2 701	2 061	1 562	1 996	2 498	2 187	139 722	90 501	7		
Arizona	629	12 699	7 867	7 547	7 453	8 295	8 172	458 920	238 482	4		
Arkansas	338	6 382	4 832	4 537	4 941	5 212	4 638	206 012	121 800	4		
California	4 177	77 086	49 327	48 320	49 553	51 040	48 393	3 557 303	1 856 970	3		
Colorado	889	15 546	9 695	9 528	9 728	10 048	9 478	659 393	351 310	5		
Connecticut	365	8 885	5 745	5 662	5 671	5 998	5 648	418 317	248 136	4		
Delaware	122	2 730	2 161	2 019	2 482	2 168	1 974	110 352	85 416	8		
District of Columbia	47	1 356	781	670	733	834	885	76 324	38 424	—		
Florida	1 899	30 633	17 803	16 662	18 040	17 962	18 548	1 211 049	554 542	4		
Georgia	1 332	26 160	16 511	15 655	16 812	16 776	16 801	1 063 328	548 832	4		
Hawaii	169	5 106	3 631	2 552	3 789	4 404	3 781	210 424	135 449	4		
Idaho	288	2 947	1 962	2 059	1 800	2 020	1 968	108 694	66 289	7		
Illinois	1 496	28 113	18 391	16 196	18 868	19 993	18 505	1 287 282	769 695	3		
Indiana	665	15 464	11 082	9 394	11 542	12 100	11 291	580 366	363 268	5		
Iowa	492	8 100	5 644	5 158	5 660	6 121	5 636	292 232	188 042	4		
Kansas	340	6 126	4 490	4 398	4 553	4 611	4 397	227 561	135 662	4		
Kentucky	526	8 276	5 961	5 442	5 560	6 303	6 541	293 265	184 010	6		
Louisiana	510	11 037	8 060	7 760	8 371	8 241	7 870	387 918	246 088	4		
Maine	174	1 831	1 298	1 226	1 251	1 425	1 290	63 581	D	6		
Maryland	871	19 609	12 850	12 113	13 130	13 565	12 594	832 120	421 430	4		
Massachusetts	786	19 024	12 084	11 358	11 881	13 016	12 080	825 364	439 796	7		
Michigan	1 237	19 266	12 770	11 258	13 142	13 773	12 905	725 175	436 199	3		
Minnesota	748	15 470	10 195	9 854	10 231	10 755	9 938	728 446	428 143	3		
Mississippi	297	8 304	6 433	6 304	6 246	6 606	6 576	302 498	217 388	2		
Missouri	830	20 882	14 740	13 955	14 481	15 489	15 037	880 760	512 941	4		
Montana	139	2 059	1 545	1 442	1 498	1 718	1 523	65 986	D	7		
Nebraska	285	4 726	3 488	3 314	3 314	3 755	3 568	173 099	106 558	4		
Nevada	350	6 917	4 520	3 909	4 472	4 975	4 723	308 069	185 380	4		
New Hampshire	152	3 112	D	D	1 895	2 061	2 035	157 115	D	4		
New Jersey	1 187	20 317	12 635	11 948	13 042	12 873	12 677	917 552	546 842	4		
New Mexico	265	4 354	3 199	3 167	3 033	3 370	3 225	146 064	100 363	6		
New York	2 102	48 283	31 429	25 879	31 945	36 133	31 760	2 087 794	1 081 968	3		
North Carolina	1 052	20 214	13 400	13 058	13 543	13 735	13 266	711 092	387 030	4		
North Dakota	165	1 950	1 496	1 301	1 522	1 647	1 516	58 394	39 836	4		
Ohio	1 333	27 260	19 019	16 909	19 481	20 439	19 247	989 642	599 984	2		
Oklahoma	440	6 373	4 480	4 493	4 378	4 631	4 417	205 954	124 936	5		
Oregon	614	11 014	8 147	8 948	9 548	7 309	6 784	480 510	338 286	3		
Pennsylvania	1 419	28 890	19 620	18 789	19 928	20 424	19 339	1 186 152	697 391	4		
Rhode Island	138	2 812	D	D	1 628	1 757	1 631	120 146	D	3		
South Carolina	525	9 995	7 121	7 068	7 389	7 168	6 861	335 193	197 114	5		
South Dakota	117	2 324	1 784	1 540	1 797	1 987	1 812	77 211	51 216	4		
Tennessee	763	16 482	11 288	10 574	11 436	11 711	11 430	582 727	325 486	5		
Texas	2 887	50 056	33 038	31 460	34 009	33 941	32 743	1 856 191	961 117	4		
Utah	432	7 854	5 555	4 883	5 776	5 936	5 626	286 944	162 060	5		
Vermont	100	1 493	1 098	1 075	1 061	1 138	1 117	59 847	41 172	8		
Virginia	850	18 538	12 471	12 624	12 424	12 773	12 066	733 704	400 318	5		
Washington	928	14 748	10 222	9 556	10 247	10 754	10 331	716 512	448 623	3		
West Virginia	200	2 555	1 939	1 967	1 914	2 014	1 860	86 837	58 024	4		
Wisconsin	594	16 551	11 825	9 868	11 959	12 914	12 558	750 676	478 889	4		
Wyoming	133	1 371	D	D	1 126	1 203	1 018	39 971	26 669	10		

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 4. Detailed Statistics for Establishments: 2002

[Detail may not add to total because of rounding. Data based on the 2002 Economic Census. For information on confidentiality protection, sampling error, and nonsampling error, see note at end of table. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Item	Value	Relative standard error of estimate (percent)
236220, Commercial and institutional building construction		
All establishments number	37 208	2
All employees number	715 896	1
Construction workers in March number	S	S
Construction workers in May number	484 745	1
Construction workers in August number	504 232	1
Construction workers in November number	478 783	1
Average number of construction workers number	478 923	1
Other employees in March number	S	S
Other employees in May number	232 796	1
Other employees in August number	241 121	1
Other employees in November number	236 322	1
Average number of other employees number	236 974	1
Total payroll \$1,000	29 210 092	1
Construction workers \$1,000	16 516 884	1
Other employees \$1,000	12 693 208	1
First-quarter payroll, all employees \$1,000	6 995 007	1
Fringe benefits, all employees \$1,000	6 823 998	1
Legally required expenditures \$1,000	3 977 130	1
Voluntary expenditures \$1,000	2 846 868	1
Value of business done ¹ \$1,000	242 859 791	1
Value of construction work ¹ \$1,000	241 065 274	1
Value of construction work on government owned projects \$1,000	69 226 950	1
Value of construction work on federally owned projects \$1,000	13 314 087	1
Value of construction work on state and locally owned projects \$1,000	55 912 863	1
Value of construction work on privately owned projects \$1,000	171 838 325	1
Other business receipts \$1,000	1 794 517	4
Value of construction work subcontracted in from others \$1,000	34 081 789	2
Net value of construction work \$1,000	108 229 283	1
Value added \$1,000	71 881 873	1
Selected costs \$1,000	170 977 918	1
Materials, parts, and supplies \$1,000	36 592 170	1
Construction work subcontracted out to others \$1,000	132 835 992	1
Selected power, fuels, and lubricants \$1,000	1 549 756	1
Purchased electricity \$1,000	442 287	1
Natural gas and manufactured gas \$1,000	127 459	1
Gasoline and diesel fuel \$1,000	907 519	1
On-highway use of gasoline and diesel fuel \$1,000	745 719	2
Off-highway use of gasoline and diesel fuel \$1,000	161 800	1
All other fuels and lubricants \$1,000	72 492	1
Total rental costs \$1,000	2 048 705	1
Machinery and equipment \$1,000	1 130 044	1
Buildings \$1,000	918 661	1
Selected purchased services \$1,000	4 171 890	1
Communication services \$1,000	1 688 628	1
Repairs to buildings and other structures \$1,000	713 987	1
Repairs to machinery and equipment \$1,000	715 044	2
Legal services \$1,000	375 241	2
Accounting, auditing, and bookkeeping services \$1,000	378 285	5
Advertising and promotional services \$1,000	S	S
Beginning-of-year gross book value of depreciable assets \$1,000	11 886 690	2
Capital expenditures, other than land \$1,000	1 440 877	2
Retirements and disposition of depreciable assets \$1,000	635 832	3
End-of-year gross book value of depreciable assets \$1,000	12 691 735	2
Depreciation charges during year \$1,000	1 318 065	2
Establishments with inventories number	4 505	-
Value of construction work for establishments with inventories \$1,000	40 480 756	-
End-of-2002, inventories of materials and supplies \$1,000	431 319	6
End-of-2001, inventories of materials and supplies \$1,000	413 874	6
Establishments with no inventories number	30 959	-
Value of construction work for establishments with no inventories \$1,000	195 347 527	-
Establishments not reporting inventories number	1 744	-
Value of construction work for establishment not reporting inventores \$1,000	5 236 991	-

¹For the 2002 Economic Census, the definitions of value of business done and value of construction work has been modified from the 1997 Economic Census definition. See Appendix A for the modified definitions.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 5. Selected Statistics for Establishments by Employment Size Class: 2002

[Detail may not add to total because of rounding. Data based on the 2002 Economic Census. For information on confidentiality protection, sampling error, and nonsampling error, see note at end of table. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Employment size class	E ¹	Number of establishments	Total number of employees	Total payroll	Value of business done ²	Value of construction work ²	Net value of construction work	Value added	Cost of materials, components, supplies, and fuels	Cost of construction work subcontracted out to others	Relative standard error of estimate (percent) for column—
	A	B	C	D	E	F	G	H	I	J	C
236220. Commercial and institutional building construction											
All establishments	—	37 208	715 896	29 210 092	242 859 791	241 065 274	108 229 283	71 881 873	38 141 927	132 835 992	1
Establishments with—											
1 to 4 employees	—	14 388	32 504	909 795	6 609 812	6 507 142	3 992 734	2 394 443	1 700 961	2 514 408	4
5 to 9 employees	—	7 639	49 974	1 707 054	11 530 670	11 430 750	6 471 196	4 079 229	2 491 887	4 959 554	4
10 to 19 employees	—	7 624	103 105	3 883 769	27 099 267	26 851 802	13 840 609	8 895 893	5 192 181	13 011 193	3
20 to 49 employees	—	4 952	149 098	6 224 482	46 481 751	45 995 183	20 947 112	13 779 761	7 653 919	25 048 071	2
50 to 99 employees	—	1 571	107 487	4 790 145	40 698 545	40 342 365	16 782 695	11 276 304	5 862 571	23 559 670	1
100 to 249 employees	—	747	113 683	5 105 507	46 554 320	46 274 755	18 681 799	12 721 748	6 239 615	27 592 956	1
250 to 499 employees	—	194	66 164	2 709 099	29 321 081	29 112 714	12 336 255	8 997 939	3 546 682	16 776 459	1
500 to 999 employees	—	64	44 341	1 678 960	17 013 152	17 004 677	6 914 100	4 241 614	2 680 961	10 090 577	1
1,000 employees or more	—	28	49 542	2 201 281	17 551 194	17 545 886	8 262 782	5 494 942	2 773 148	9 283 104	—

¹Construction receipts were obtained from census respondent forms. For establishments whose respondent forms were not received at the time data were tabulated, these data were calculated using industry averages and imputation for nonresponse. The following symbols are shown where estimated imputation-based data on construction receipts account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²For the 2002 Economic Census, the definitions of value of business done and value of construction work has been modified from the 1997 Economic Census definition. See Appendix A for the modified definitions.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6. Selected Statistics for Establishments by Value of Business Done Size Class: 2002

[Detail may not add to total because of rounding. Data based on the 2002 Economic Census. For information on confidentiality protection, sampling error, and nonsampling error, see note at end of table. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Dollar value size class	E ¹	Number of establishments	Total number of employees	Total payroll	Value of business done ²	Value of construction work ²	Net value of construction work	Value added	Cost of materials, components, supplies, and fuels	Cost of construction work subcontracted out to others	Relative standard error of estimate (percent) for column—
	A	B	C	D	E	F	G	H	I	J	G
236220. Commercial and institutional building construction											
All establishments	—	37 208	715 896	29 210 092	242 859 791	241 065 274	108 229 283	71 881 873	38 141 927	132 835 992	1
Establishments with value of business done—											
Less than \$25,000	—	234	S	S	S	S	S	S	S	S	S
\$25,000 to \$49,999	—	641	S	S	S	S	S	S	S	S	S
\$50,000 to \$99,999	—	1 498	2 397	29 406	115 280	114 535	82 171	55 546	27 370	32 364	12
\$100,000 to \$249,999	—	5 042	12 315	234 791	873 192	865 543	642 186	428 405	221 430	223 357	6
\$250,000 to \$499,999	—	4 763	18 679	452 885	1 725 920	1 706 310	1 234 368	793 799	460 180	471 941	6
\$500,000 to \$999,999	—	5 695	35 087	965 811	4 098 169	4 032 077	2 853 281	1 804 011	1 115 362	1 178 796	5
\$1,000,000 to \$2,499,999	—	7 159	74 730	2 442 095	11 541 702	11 421 298	7 347 924	4 521 183	2 947 145	4 073 374	4
\$2,500,000 to \$4,999,999	—	4 442	69 837	2 715 699	15 801 323	15 643 635	8 800 040	5 419 876	3 537 853	6 843 594	4
\$5,000,000 to \$9,999,999	—	3 319	82 804	3 406 941	23 243 065	22 986 046	11 526 505	7 631 203	4 152 321	11 459 541	4
\$10,000,000 or more	—	4 415	419 086	18 952 772	185 431 301	184 266 011	75 721 116	51 212 769	25 673 636	108 544 895	1

¹Construction receipts were obtained from census respondent forms. For establishments whose respondent forms were not received at the time data were tabulated, these data were calculated using industry averages and imputation for nonresponse. The following symbols are shown where estimated imputation-based data on construction receipts account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²For the 2002 Economic Census, the definitions of value of business done and value of construction work has been modified from the 1997 Economic Census definition. See Appendix A for the modified definitions.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 7. Value of Construction Work for Establishments by Type of Construction: 2002

[Detail may not add to total because of rounding. Data based on the 2002 Economic Census. For information on confidentiality protection, sampling error, and nonsampling error, see note at end of table. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Type of construction	Value of construction work ¹				Relative standard error of estimate (percent) for column—			
	Total	New construction	Additions, alterations, or reconstruction	Maintenance and repair	A	B	C	D
	A	B	C	D	A	B	C	D
236220, Commercial and institutional building construction								
Total	241 065 274	160 557 382	69 055 032	11 452 861	1	1	1	1
Building construction, total	234 908 433	156 217 218	67 719 247	10 971 968	1	1	1	1
Office buildings	49 026 957	28 232 617	18 218 118	2 576 222	1	1	2	4
Stores, restaurants, and automobile service stations, and other commercial buildings	40 923 526	27 173 407	11 373 456	2 376 663	2	2	3	3
Educational buildings	42 466 394	27 967 631	13 073 674	1 425 089	1	1	2	3
Health care and institutional buildings	23 863 323	14 601 654	8 383 325	878 344	1	1	2	6
Other building construction	78 628 233	58 241 909	16 670 674	3 715 650	1	1	1	2
Nonbuilding construction, total	5 681 889	3 865 211	1 335 785	480 893	1	1	1	2
Other nonbuilding construction	5 681 889	3 865 211	1 335 785	480 893	1	1	1	2
Construction work, nsk	474 952	474 952	—	—	—	—	—	—

¹For the 2002 Economic Census, the definition of value of construction work has been modified from the 1997 Economic Census definition. See Appendix A for the modified definition.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 8. Selected Statistics for Establishments by Specialization in Types of Construction: 2002

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in Table 7. Data based on the 2002 Economic Census. For information on confidentiality protection, sampling error, and nonsampling error, see note at the end of table. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A.]

Item	Number of establishments	Total number of employees	Total payroll	Value of construction work for specialized type	Net value of construction work	Value added	Cost of construction work subcontracted out to others	Relative standard error of estimate (percent) for column—
	A	B	C	D	E	F	G	G
236220, Commercial and institutional building construction								
Total	37 208	715 896	29 210 092	X	108 229 283	71 881 873	132 835 992	1
Establishments specializing 51 percent or more...	27 270	420 060	16 518 981	103 660 365	61 244 485	41 582 113	70 711 096	1
Building construction, total								
Establishments specializing 51 percent or more...	27 264	419 189	16 462 818	103 185 413	61 053 912	41 518 199	70 426 717	1
Specialization 100 percent	11 496	140 675	5 192 857	37 263 813	19 326 118	13 334 978	17 937 695	3
Specialization 90 to 99 percent	2 786	41 535	1 746 446	13 262 545	7 298 005	5 508 702	6 907 121	3
Specialization 80 to 89 percent	2 467	42 939	1 724 153	11 484 206	5 967 356	3 795 854	7 912 210	3
Specialization 70 to 79 percent	3 618	59 977	2 292 945	14 072 843	8 330 114	5 588 726	10 891 168	3
Specialization 60 to 69 percent	3 085	57 523	2 469 760	14 091 625	9 076 683	5 856 713	13 441 829	3
Specialization 51 to 59 percent	3 812	76 539	3 036 657	13 010 381	11 055 636	7 433 226	13 336 695	2
Office buildings								
Establishments specializing 51 percent or more...	6 970	96 851	4 171 667	25 800 920	14 381 834	10 280 758	17 988 204	2
Specialization 100 percent	3 312	34 115	1 428 689	9 603 086	4 857 275	3 658 360	4 745 810	4
Specialization 90 to 99 percent	811	11 479	489 194	3 220 576	1 834 129	1 616 259	1 621 776	8
Specialization 80 to 89 percent	528	11 281	526 964	3 375 728	1 683 843	1 031 921	2 380 656	7
Specialization 70 to 79 percent	873	14 513	628 200	3 727 016	2 114 867	1 454 952	2 973 285	3
Specialization 60 to 69 percent	739	12 676	556 729	3 115 703	1 811 715	1 008 611	3 194 340	4
Specialization 51 to 59 percent	707	12 786	541 891	2 758 812	2 080 005	1 510 656	3 072 337	2
Stores, restaurants, and automobile service stations, and other commercial buildings								
Establishments specializing 51 percent or more...	7 663	103 415	3 883 389	26 475 348	14 541 768	9 699 997	17 430 414	2
Specialization 100 percent	3 526	43 864	1 593 163	12 712 814	6 278 780	4 237 903	6 434 034	5
Specialization 90 to 99 percent	591	8 711	367 965	3 103 259	1 327 372	920 269	1 979 461	5
Specialization 80 to 89 percent	677	11 870	393 421	2 786 250	1 403 739	915 646	1 986 393	4
Specialization 70 to 79 percent	1 009	10 582	420 300	2 421 229	1 558 370	1 063 661	1 733 198	5
Specialization 60 to 69 percent	833	14 329	610 173	3 371 337	2 365 714	1 622 608	3 012 032	5
Specialization 51 to 59 percent	1 028	14 059	498 366	2 080 459	1 607 793	939 911	2 285 296	5
Educational buildings								
Establishments specializing 51 percent or more...	2 763	71 677	2 917 823	20 608 459	12 149 038	8 402 187	15 112 267	3
Specialization 100 percent	645	13 406	465 488	4 260 670	2 013 604	1 294 520	2 247 066	11
Specialization 90 to 99 percent	478	9 543	408 210	3 455 851	2 091 885	1 596 473	1 617 649	6
Specialization 80 to 89 percent	356	8 676	373 748	2 737 799	1 333 252	894 620	1 968 785	6
Specialization 70 to 79 percent	575	14 504	584 538	3 863 129	1 923 819	1 202 058	3 360 563	6
Specialization 60 to 69 percent	401	12 515	547 337	3 511 376	2 276 489	1 635 347	3 308 566	6
Specialization 51 to 59 percent	309	13 034	538 501	2 779 635	2 509 989	1 779 169	2 609 637	4
Health care and institutional buildings								
Establishments specializing 51 percent or more...	1 870	32 612	1 215 754	7 730 616	4 792 396	3 515 491	5 080 293	5
Specialization 100 percent	801	8 000	294 700	2 459 996	1 424 702	1 199 798	1 035 294	9
Specialization 90 to 99 percent	249	3 391	142 252	1 142 711	676 842	506 531	545 727	18
Specialization 80 to 89 percent	162	2 418	102 244	664 607	344 911	218 595	467 549	10
Specialization 70 to 79 percent	355	9 344	236 910	1 387 822	915 526	564 506	966 620	4
Specialization 60 to 69 percent	201	5 904	281 457	1 353 527	779 523	529 526	1 391 252	14
Specialization 51 to 59 percent	101	3 555	158 191	721 952	650 892	496 534	673 851	3
Other building construction								
Establishments specializing 51 percent or more...	7 998	114 634	4 274 185	22 570 070	15 188 876	9 619 766	14 815 538	3
Specialization 100 percent	3 212	41 290	1 410 817	8 227 246	4 751 756	2 944 397	3 475 490	10
Specialization 90 to 99 percent	658	8 412	338 825	2 340 149	1 367 777	869 171	1 142 507	10
Specialization 80 to 89 percent	744	8 694	327 776	1 919 822	1 201 611	735 073	1 108 827	5
Specialization 70 to 79 percent	806	11 035	422 996	2 673 648	1 817 532	1 303 549	1 857 502	9
Specialization 60 to 69 percent	911	12 099	474 065	2 739 682	1 843 242	1 060 620	2 535 639	3
Specialization 51 to 59 percent	1 668	33 104	1 299 707	4 669 523	4 206 958	2 706 956	4 695 573	2
Construction work, nsk								
Establishments specializing 51 percent or more...	6	872	56 163	474 952	190 573	63 914	284 379	—
Specialization 100 percent	6	872	56 163	474 952	190 573	63 914	284 379	—

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 9. Value of Business Done for Establishments by Kind-of-Business Activity: 2002

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. Data based on the 2002 Economic Census. For information on confidentiality protection, sampling error, and nonsampling error, see note at end of table. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Primary and other kind of business activities	Value of business done ¹	Relative standard error of estimate (percent)
236220, Commercial and institutional building construction		
Total	242 859 791	1
Building construction, total	218 674 845	1
Building construction on land owned by others	162 479 801	1
Remodeling contractor	27 943 154	2
Construction management, at risk (for building construction)	28 251 890	1
All other construction activities	22 006 955	2
Other business activities secondary to construction activities, total	1 762 011	4
All other business activities secondary to construction activities	1 762 011	4
Kind of business activity, nsk	415 980	—

¹For the 2002 Economic Census, the definition of value of business done has been modified from the 1997 Economic Census definition. See Appendix A for the modified definition.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 10. Selected Statistics for Establishments by Specialization in Kind-of-Business Activity: 2002

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. This table presents selected statistics for establishments according to degree of specialization by major activity of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of business done by kind of business activity was not provided in Table 9. Data based on the 2002 Economic Census. For information on confidentiality protection, sampling error, and nonsampling error, see note at end of table. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A.]

Item	Number of establishments	Total number of employees	Total payroll	Value of construction work for specialized kind of business	Net value of construction work	Value added	Cost of construction work subcontracted out to others	Relative standard error of estimate (percent) for column—
	A	B	C	D	E	F	G	G
236220, Commercial and institutional building construction								
Total	37 208	715 896	29 210 092	X	108 229 283	71 881 873	132 835 992	1
Establishments specializing 51 percent or more...	36 838	709 789	28 957 722	209 606 884	107 619 326	71 510 137	132 159 705	1
Building construction, total								
Establishments specializing 51 percent or more...	33 885	669 433	27 095 467	199 960 219	101 142 004	66 449 662	127 457 067	1
Specialization 100 percent	20 525	343 763	13 022 800	106 707 778	48 886 076	31 108 447	57 821 702	1
Specialization 90 to 99 percent	3 216	87 882	3 789 086	33 503 332	15 572 003	10 662 648	19 707 104	3
Specialization 80 to 89 percent	2 542	62 260	2 720 969	20 084 273	9 341 203	5 904 238	14 906 552	2
Specialization 70 to 79 percent	2 094	61 027	2 644 793	17 637 682	10 318 013	7 049 380	13 709 171	2
Specialization 60 to 69 percent	2 244	46 311	2 070 019	10 918 290	7 398 660	4 923 915	9 773 963	3
Specialization 51 to 59 percent	3 264	68 190	2 847 802	11 108 864	9 626 048	6 801 035	11 538 575	2
Building construction on land owned by others								
Establishments specializing 51 percent or more...	23 341	510 025	20 896 693	157 188 550	76 930 187	49 161 341	100 456 199	1
Specialization 100 percent	14 471	269 837	10 509 635	88 194 934	39 787 025	25 058 147	48 407 909	1
Specialization 90 to 99 percent	2 392	71 000	3 085 406	26 879 769	11 977 881	7 987 946	16 258 530	2
Specialization 80 to 89 percent	1 784	45 065	1 936 111	14 541 888	6 805 021	4 153 732	10 749 129	2
Specialization 70 to 79 percent	1 326	42 979	1 841 240	11 837 845	6 541 717	4 129 933	9 636 077	2
Specialization 60 to 69 percent	1 367	33 667	1 557 441	8 105 578	5 413 970	3 495 303	7 246 226	2
Specialization 51 to 59 percent	1 999	47 477	1 966 861	7 628 535	6 404 573	4 336 281	8 158 328	2
Remodeling contractor								
Establishments specializing 51 percent or more...	9 549	105 105	3 820 025	20 164 587	12 646 843	8 804 693	11 289 483	2
Specialization 100 percent	5 538	52 873	1 729 995	10 997 598	6 174 514	4 075 433	4 823 084	4
Specialization 90 to 99 percent	712	9 251	367 366	2 348 340	1 194 262	877 699	1 339 760	7
Specialization 80 to 89 percent	658	9 274	344 209	1 671 300	1 010 332	769 474	1 016 376	10
Specialization 70 to 79 percent	728	9 978	407 604	1 837 429	1 151 208	777 965	1 357 496	4
Specialization 60 to 69 percent	809	8 625	340 261	1 465 575	1 251 716	936 115	1 092 294	9
Specialization 51 to 59 percent	1 104	15 104	630 590	1 844 345	1 864 812	1 368 008	1 660 473	3
Construction management, at risk (for building construction)								
Establishments specializing 51 percent or more...	994	54 303	2 378 749	22 607 083	11 564 974	8 483 628	15 711 385	2
Specialization 100 percent	516	21 052	783 170	7 515 246	2 924 537	1 974 868	4 590 709	3
Specialization 90 to 99 percent	111	7 632	336 314	4 275 223	2 399 860	1 797 003	2 108 814	1
Specialization 80 to 89 percent	100	7 921	440 649	3 871 084	1 525 850	981 032	3 141 047	2
Specialization 70 to 79 percent	40	8 069	395 949	3 962 408	2 625 088	2 141 481	2 715 599	4
Specialization 60 to 69 percent	67	4 020	172 316	1 347 137	732 974	492 498	1 435 443	13
Specialization 51 to 59 percent	161	5 609	250 352	1 635 984	1 356 664	1 096 746	1 719 774	9
All other construction activities								
Establishments specializing 51 percent or more...	2 948	39 684	1 816 812	9 232 809	6 315 443	5 008 788	4 450 661	8
Specialization 100 percent	1 911	21 399	990 268	4 199 270	2 725 374	1 927 293	1 473 896	4
Specialization 90 to 99 percent	250	3 993	191 968	1 535 052	888 560	804 394	735 534	46
Specialization 80 to 89 percent	226	4 562	208 330	1 219 667	876 356	812 432	589 177	3
Specialization 70 to 79 percent	216	4 717	186 630	1 266 503	1 177 866	981 959	554 194	6
Specialization 60 to 69 percent	234	2 574	120 423	590 288	350 333	241 781	599 104	24
Specialization 51 to 59 percent	111	2 439	119 194	422 030	296 954	240 929	498 756	4
Kind of business activity, nsk								
Establishments specializing 51 percent or more...	5	672	45 443	413 856	161 879	51 687	251 977	—
Specialization 100 percent	5	672	45 443	413 856	161 879	51 687	251 977	—

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 11. Value of Construction Work for Establishments by Location of Construction Work: 2002

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. Data based on the 2002 Economic Census. For information on confidentiality protection, sampling error, nonsampling error, and geographical definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

Location of construction work	Value of construction work ¹	Relative standard error of estimate (percent) for column—
236220, Commercial and institutional building construction		
United States	241 065 274	1
Construction work done in—		
Alabama	3 048 297	2
Alaska	1 114 071	13
Arizona	5 096 950	4
Arkansas	1 805 997	4
California	28 546 774	3
Colorado	5 724 743	2
Connecticut	3 041 269	3
Delaware	789 302	8
District of Columbia	2 079 820	1
Florida	12 915 098	3
Georgia	8 488 965	4
Hawaii	1 651 584	2
Idaho	936 143	9
Illinois	9 987 144	3
Indiana	4 491 236	5
Iowa	2 300 736	2
Kansas	2 222 171	3
Kentucky	2 395 461	4
Louisiana	3 206 059	3
Maine	649 461	6
Maryland	5 270 515	5
Massachusetts	7 787 323	2
Michigan	6 945 202	3
Minnesota	5 529 762	2
Mississippi	1 683 021	3
Missouri	4 878 893	5
Montana	499 379	5
Nebraska	1 576 773	2
Nevada	3 049 192	3
New Hampshire	1 292 916	11
New Jersey	7 699 407	3
New Mexico	1 414 886	3
New York	15 744 452	3
North Carolina	6 887 954	3
North Dakota	338 295	5
Ohio	7 064 726	2
Oklahoma	1 915 067	3
Oregon	3 049 802	2
Pennsylvania	9 495 280	3
Rhode Island	901 271	5
South Carolina	3 049 908	3
South Dakota	592 124	4
Tennessee	4 579 855	1
Texas	18 991 128	4
Utah	1 886 372	6
Vermont	456 481	7
Virginia	7 232 153	4
Washington	5 310 004	2
West Virginia	647 124	3
Wisconsin	4 314 979	3
Wyoming	489 752	7

¹For the 2002 Economic Census, the definition of value of construction work has been modified from the 1997 Economic Census definition. See Appendix A for the modified definition.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Appendix A.

Explanation of Terms

ESTABLISHMENT

A relatively permanent office, or other place of business, where the usual business activities related to construction are conducted. Generally, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis.

Number of establishments includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included.

NUMBER OF EMPLOYEES

Includes all full-time and part-time individuals on the payrolls of construction establishments during any part of the pay period which included the 12th of March, May, August, and November. Included are individuals on paid sick leave, paid holidays, paid vacations, and salaried officers and executives of a corporation. Excluded are subcontractors and their employees; full- or part-time leased employees whose payroll was filed under an employee leasing company's Employer Identification Number; temporary staffing obtained from a staffing service; and proprietors and partners of unincorporated businesses.

Includes all permanent full-time and part-time employees who are on the payrolls of establishments who worked or received pay for any part of the pay period including the 12th of March, May, August, and November.

The all employees or total number of employees number is the sum of construction workers plus other employees who were on the payroll during the pay periods including the 12th of March, May, August, and November, divided by four.

Construction workers

Includes all payroll workers (up through the working supervisory level) directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment operators, on-site record keepers, and security guards. Supervisory employees above the working foreman level are excluded from this category and are included in the other employees category.

The average number of construction workers is the sum of construction workers who were on the payroll during the pay periods including the 12th of March, May, August, and November, divided by four.

Other employees

Includes payroll employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

The average number of other employees is the sum of other employees who were on the payroll during the pay periods including the 12th of March, May, August, and November, divided by four.

PAYROLL

Includes the gross earnings paid in the reporting year to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, and vacation and sick leave pay, prior to deductions such as employees'

Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if unincorporated.

Payroll for Construction Workers

Includes the gross earnings paid in the reporting year to all construction workers on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, and vacation and sick leave pay, prior to deductions such as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds.

Payroll for Other Employees

Includes the gross earnings paid in the reporting year to all other employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, and vacations and sick leave pay, prior to deductions such as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Payroll of other employees excludes salaries of the proprietor or partners, if unincorporated.

FIRST-QUARTER PAYROLL FOR ALL EMPLOYEES

Includes the gross earnings paid in the first quarter of the reporting year to all employees on the payroll of construction establishments. The first-quarter payroll period is the first quarterly pay period which includes March 12. Included are all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, and vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. It also includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if unincorporated.

FRINGE BENEFITS FOR ALL EMPLOYEES

Includes the total sum of fringe benefits of all full-time and part-time employees on the payrolls of construction establishments during any part of the pay period which included the 12th of the months specified on the report form. Includes expenditures made by the employer for legally required and voluntary fringe benefit programs for employees.

Legally Required Expenditures

Includes expenditures made by the employer for Social Security and Medicare contributions, unemployment compensation, worker's compensation, and state temporary disability payments.

Voluntary Expenditures

Includes expenditures made by the employer for life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

VALUE OF BUSINESS DONE

Includes the sum of value of construction work and other business receipts. Value of business done is the sum of receipts, billings, or sales from establishments of construction business activities plus receipts from other business activities.

Value of Construction Work

In the 1987-1997 censuses, the value of construction work was collected to measure actual construction activity done during the year. Studies have shown that respondents were not able to accurately report these data. In 2002, receipts, billings, or sales for construction work was collected.

This item includes the receipts, billings, or sales for construction work done by building contractors, heavy and civil engineering construction contractors, and specialty trade contractors. Included are new construction, additions, alterations or reconstruction, and maintenance and repair construction work. Establishments engaged in the sale and installation of construction components such as plumbing, heating, and central air-conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators, or escalators were instructed to include both the value for the installation and receipts covering the price of the items installed. Excluded are the cost of industrial and other special machinery and equipment that are not an integral part of a structure and receipts from business operations in foreign countries.

The value of construction work consists of several components that are summed up individually to get the total value of construction work. These components are:

1. Value of construction work on government owned projects. This is the total of all projects owned by federal, state, and local governments:
 - a. Value of construction work on federally owned projects. This is the value of construction work for projects owned by the federal government.
 - b. Value of construction work on state and locally owned projects. This is the summed total value of construction work for all projects owned by state and local governments.
2. Value of construction work on privately owned projects. This is the value of construction work for projects owned privately (excluding government owned projects).

Other Business Receipts

Includes the receipts for all other business activities done by an establishment in the current year. Includes business receipts not reported as value of construction work. This includes business receipts from retail and wholesale trade, rental of equipment without operator, manufacturing, transportation, legal services, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here. Excluded are nonoperating income such as interest, dividends, the sale of fixed assets, or receipts from other business operations in foreign countries.

NET VALUE OF CONSTRUCTION WORK

Includes the value of construction work less the cost of construction work subcontracted out to others.

VALUE ADDED

This measure of construction activity is equal to value of business done, less costs for construction work subcontracted out to others and costs for materials, components, supplies, and fuels.

VALUE OF CONSTRUCTION WORK SUBCONTRACTED IN FROM OTHERS

Includes the value of construction work done by reporting establishments as subcontractors to other contractors or builders. Establishments were asked to report the approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a dollar value.

CONSTRUCTION RECEIPTS PERCENT ESTIMATED

Construction receipts were obtained from census respondent forms. For establishments whose respondent forms were not received at the time data were tabulated, the data were calculated using industry averages and imputation for nonresponse.

SELECTED COSTS

Includes the direct charges actually paid or payable for costs incurred for purchases of materials, components, and supplies; costs of construction work subcontracted out to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are not included.

Cost of Materials, Components, and Supplies

Includes the costs for materials, components, and supplies used by establishments in the construction or reconstruction of buildings, structures, or other facilities plus costs for materials bought and resold to others. Also included are costs made for direct purchases of materials, components, and supplies although the purchases were subsequently provided to subcontractors for their use. Supplies include expendable tools which are charged to current accounts. Freight and other direct charges representing only that amount paid after discounts and the value of materials, components, and supplies obtained from other establishments of the respondent's company are also included. Excluded from this item are the cost of fuels, lubricants, electric energy, and industrial and other specialized machinery and equipment such as printing presses; computer systems that are not an integral part of a structure; and materials furnished to contractors by the owners of projects.

Cost of Construction Work Subcontracted Out to Others

Includes all costs for construction work subcontracted out to other construction contractors during the reporting year. Excluded from this item are costs to the reporting establishment for its purchases of materials, components, and supplies provided to a subcontractor for use. These costs are reported under costs for materials, components, and supplies. Also excluded are costs for the rental of machinery or equipment.

Cost of Selected Power, Fuels, and Lubricants

Includes costs for fuels including gasoline, diesel fuel and lubricants, and electric energy purchased during the year from other companies or received from other establishments of the company. Also included are costs for natural gas, manufactured gas, fuel oil, and coal and coke products.

The components of selected power, fuels, and lubricants are:

1. Purchased electricity. This is the cost of electric energy purchased during the year from other companies or received from other establishments of the company.
2. Natural gas and manufactured gas. This is the cost of natural gas and manufactured gas purchased during the year from other companies or received from other establishments of the company.
3. Gasoline and diesel fuel. This is the cost of gasoline and diesel fuel purchased during the year from other companies or received from other establishments of the company. This cost is broken down into two different uses of gasoline and diesel fuel. They are:
 - a. On-highway use of gasoline and diesel fuel. This is the cost of gasoline and diesel fuel purchased during the year to fuel highway vehicles. A highway vehicle is any self-propelled vehicle designed to carry a load over public highways, whether or not the vehicle was also designed to perform other functions. Examples of vehicles designed to carry a load over public highways are passenger automobiles, trucks, and truck tractors. If a vehicle can be used for a combination of on-highway and off-highway uses and has one fuel tank, the fuel use is not considered off-highway. An example of this is a concrete-mixer truck where the truck engine operates both the engine and the mixing unit by a power take-off and is fueled by a single tank. None of the fuel used in this vehicle is off-highway because of the on-highway use. If the vehicle has separate fuel tanks and engines, the fuel in a tank used for non-highway use may be considered off-highway use.

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- b. Off-highway use of gasoline and diesel fuel. This is the cost of gasoline and diesel fuel purchased during the reporting year for off-highway use. Off-highway fuel use is the use of fuel for trade, business, or income producing activity. In most cases, off-highway fuel use does not include use in a highway vehicle registered or required to be registered for use on public highways.
 4. All other fuels and lubricants. This is the cost of fuels and lubricants purchased during the year from other companies or received from other establishments of the company that are not included as costs in any of these categories: natural gas; manufactured gas; gasoline; and diesel fuel.

COSTS OF MATERIALS, COMPONENTS, SUPPLIES, AND FUELS

Includes the costs for materials, components, and supplies used by establishments in the construction or reconstruction of buildings, structures, or other facilities plus costs for materials bought and resold to others. Also included is the costs for fuels. These include gasoline, diesel fuel, lubricants, electric energy purchased during the year from other companies or received from other establishments of the company, and costs for natural and manufactured gas, fuel oil, and coal and coke products. Excluded from this item are industrial and other specialized machinery and equipment, such as printing presses; computer systems that are not an integral part of a structure; and materials furnished to contractors by the owners of projects.

RENTAL PAYMENTS

Includes the total rental costs for renting and/or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It excludes costs for the rental of land. It also excludes costs under agreements that in effect are conditional sales contracts such as capital leases. Such costs are included in capital expenditures.

SELECTED PURCHASED SERVICES

Includes the costs for services purchased from other companies that are paid directly by an establishment that are normally considered as overhead or non-job-related costs. Included are only the cost of repairs necessary to maintain property and equipment. Excluded are the cost of improvements that increase the value of property or the cost of adapting the property for another use. Such costs are included in capital expenditures. Also excluded are the salaries paid to employees and cost of construction activities subcontracted to others already reported within the selected costs of an establishment.

Included in the cost of selected purchased services for communication services is the actual expense incurred or payable during the year for any type of communication. Such types of communication include telephone, data transmission, telegraph, Internet, connectivity, FAX, telex, photo transmission, paging, cellular telephone, on-line access and related services, etc.

Included in the cost of selected purchased services for repairs to buildings and other structures is the actual expense incurred or payable during the year for any type of repair to buildings and other structures. Such types of repair include maintenance and repair of buildings, job-site trailers, and other structures. Excluded are janitorial services.

The cost of selected purchased services for repairs to machinery and equipment is the actual expense incurred or payable during the year for any type of repairs made to structures and equipment by outside companies or from other establishments of the same company. Such types of repairs to machinery and equipment include maintenance and repair of construction equipment and tools; machinery; and office equipment, furniture, and vehicles, including related service contracts.

Included in the cost of selected purchased services for legal services is the actual expense incurred or payable during the year for any type of legal services. Excluded are the salaries paid to employees of the establishment for these services.

Included in the cost of selected purchased services for accounting, auditing, and bookkeeping services is the actual expense incurred or payable during the year for these services. Excluded are the salaries paid to employees of the establishment for these services.

Included in the cost of selected purchased services for advertising and promotional services is the actual expense incurred or payable during the year for these services. Such types of advertising and promotional services include advertising, marketing, promotional, or public relations services.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Includes the value of depreciable assets for the beginning of year (BOY) and end of year (EOY). Gross value of depreciable assets are usually the original costs of the assets at the beginning of the year. The gross value of depreciable assets (BOY), plus any capital expenditures for new and used depreciable assets in the reporting year, minus the gross value of depreciable assets sold, retired, scrapped, destroyed, etc. in the reporting year, comprise gross book value of depreciable assets (EOY). Depreciable assets are the fixed tangible property of the establishment for which depreciation accounts are ordinarily maintained.

CAPITAL EXPENDITURES, OTHER THAN LAND

Includes capital expenditures that will be charged to the fixed assets accounts and for which depreciation accounts are ordinarily maintained. Includes the cost of capital improvements that were made during the year that increased the value of property or adapted the property for another use. Capital expenditures for leasehold improvements made to property leased from others are also included. Land expenditures are not included as capital expenditures. If any building or equipment had been acquired under a capital leasing arrangement that meet the criteria set down by the Financial Accounting Standards Board (FASB), respondents were instructed to report the original cost or market value as a fixed asset and as a capital expenditure, if acquired in the reporting year. If the lease qualified as an operating lease, respondents were instructed not to include the value of the building and equipment as a fixed asset or capital expenditure. If capital expenditures were not recorded directly at the establishment level but handled centrally at a company or division level, respondents were requested to report appropriate estimates for the individual establishments.

RETIREMENTS AND DISPOSITION OF DEPRECIABLE ASSETS

Includes the gross value of depreciable assets sold, retired, scrapped, destroyed, abandoned, etc., during the year. The values shown are the acquisition costs of the retired assets. This item also includes the value of assets (at acquisition cost rather than current market value) transferred to other establishments of the same company.

DEPRECIATION CHARGES DURING YEAR

Includes the depreciation expenses of the establishment during the reporting year. These expenses are charged against depreciable assets which are the fixed tangible property of the establishment for which depreciation accounts are ordinarily maintained.

NUMBER OF ESTABLISHMENTS WITH INVENTORIES

Includes all establishments with payroll that reported a dollar amount of inventory. Includes the number of establishments that were in business at any time during the reporting year. It covers all full-year and part-year operations. Construction establishments that were inactive or idle for the entire year were not included.

Value of Construction Work for Establishments With Inventories

Includes the value of construction work for establishments with payroll that reported a dollar amount of inventory in the reporting year.

BEGINNING- AND END-OF-YEAR INVENTORIES OF MATERIALS AND SUPPLIES

Includes the inventories of materials and supplies owned at the beginning and end of the reporting year by establishments with payroll. Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials that are owned by others but held by the reporting establishment. Builders who built on their own account for sale were requested to exclude work in progress and finished units not sold from inventories. Inventories of multiestablishment companies were instructed to be reported by the establishment that is responsible for the inventories, even if these inventories were held at a separate location.

NUMBER OF ESTABLISHMENTS WITH NO INVENTORIES

Includes all establishments with payroll that reported having no inventories of materials and supplies during the reporting year. Includes the number of establishments that were in business at any time during the reporting year. It covers all full-year and part-year operations. Construction establishments that were inactive or idle for the entire reporting year were not included.

Value of Construction Work for Establishments With No Inventories

Includes the value of construction work for establishments with payroll that reported having no dollar amount of inventory in the reporting year.

NUMBER OF ESTABLISHMENTS NOT REPORTING INVENTORIES

Includes all establishments with payroll that did not report a dollar amount for inventories of materials and supplies during the reporting year. It covers all full-year and part-year operations. Construction establishments that were inactive or idle for the entire reporting year were not included.

Value of Construction Work for Establishments Not Reporting Inventories

Includes the value of construction work for establishments that did not report a dollar amount for inventories of materials and supplies, and the value of construction work for establishments that did not complete a census form.

VALUE OF CONSTRUCTION WORK BY TYPE OF CONSTRUCTION

Includes the dollar value of construction work according to the specified types of construction. There are three categories of construction. They are:

1. New construction. The original construction work done on a project including all finishing work on the original building or structure. Land development work on the site and demolition of existing structures are also included.
2. Additions, alterations, or reconstruction. The construction work which adds to the value or useful life of an existing building or structure or which adapts a building or structure to a new or different use. Included are "major replacements" of building systems such as the installation of a new roof or heating system and the resurfacing of streets or highways. This contrasts to the repair of a hole in a roof or the routine patching of highways and streets, which would be classified as maintenance and repair.
3. Maintenance and repair. The incidental construction work which keeps a property in ordinary working condition. Excluded are trash and snow removal, lawn maintenance and landscaping, cleaning, and janitorial services.

Types of Construction

Provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in the reporting year. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function. For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents

worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose; i.e., office and residential, or commercial, they were to classify the building by its major purpose. In addition, all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types. There are two types of construction:

1. Building Construction. The details for this type of construction are defined as:

- Single-family houses, detached. Includes all fully detached residential buildings constructed for one family use.
- Single-family houses, attached, including townhouses and townhouse-type condominiums. Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken party or lot line wall from ground to roof.
- Apartment buildings, apartment-type condominiums, and cooperatives. Includes apartment rentals, high-rise, low-rise, or any structures containing two or more housing units, excluding attached single-family houses.
- Dormitories and barracks. Includes school dormitories and military or nonmilitary barracks that are nonhousekeeping structures.
- Other manufacturing and industrial buildings. Includes all manufacturing and industrial buildings and plants that are used to house production and assembly activities. Note that industrial parks should be classified under its primary usage such as warehouses, office space, commercial, or industrial type buildings. Heavy industrial facilities such as blast furnaces, petroleum refineries, and chemical complexes are not included in this category but are reported under nonbuilding construction.
- Manufacturing and industrial warehouses. Includes all warehouses which are intended for industrial activities.
- Hotels and motels. Includes hotels, motels, bed-and-breakfast inns, and tourist cabins intended for transient accommodations. Also included are hotel and motel conference centers.
- Office buildings. Includes all buildings that are used primarily for office space or for government administrative offices. Also included are banks or financial buildings that are three stories or more. Medical office buildings are reported under hospitals and institutional buildings.
- All other miscellaneous commercial buildings. Includes all buildings that are intended for use primarily in the retail and service trades, i.e., shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- Commercial warehouses. Includes distribution buildings and mini-storage units intended for commercial use. Also included are storage warehouses.
- Religious buildings. Includes all buildings that are intended for religious services or functions such as churches, synagogues, convents, monasteries, and seminaries.
- Educational buildings. Includes all buildings that are used directly in administrative and instructional activities such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories that are not a part of a manufacturing or commercial establishment, are also included.

- Health care and institutional buildings. Includes hospitals, medical office buildings, and all other buildings that are intended to provide health and institutional care such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- Public safety buildings. Includes detention centers, prisons, fire stations, and rescue squad buildings.
- Farm buildings, nonresidential. Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- Amusement, social, and recreational buildings. Includes buildings that are used primarily for entertainment, social, and recreational activities such as sports arenas, convention centers, theaters, music halls, golf and country club buildings, fitness centers, and bowling alleys.
- Indoor swimming pools. Includes pools that are inside a building.
- Indoor ice rinks. Includes ice rinks that are inside a building.
- Grain elevators and dry cleaning plants. Includes grain and storage elevators and dry cleaning plants.
- Waste disposal plants. Includes recycling centers, garbage disposal plants, incinerator disposed facilities, and material recovery facilities.
- Miscellaneous building construction. Includes all other nonresidential buildings such as fire stations, post offices, and bus and air passenger terminals and hangars.

2. Nonbuilding Construction. The details for this type of construction are defined as:

- Highways, streets, and related work. Includes streets, roads, alleys, sidewalks, curbs and gutters, culverts, erosion control, installation of guard rails, highway signs, and lighting. Also includes earthwork protective structures when used in connection with road improvements.
- Airport runways and related work. Includes airport runways, taxiways, aprons, and related work.
- Private driveways and parking areas. Includes all nonstructural parking areas and private driveways of all surface types.
- Bridges and elevated highways. Includes viaducts and overpasses, roads, highways, railroads, and causeways built on structural supports.
- Tunnels. Includes highway, pedestrian, railroad, and water distribution tunnels.
- Sewers, sewer lines, septic tanks, and related facilities. Includes sanitary and storm sewers, pumping stations, septic systems, and related facilities.
- Water mains and related facilities. Includes water supply systems, pumping stations, and related facilities.
- Oil and gas pipeline construction. Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- Power and communication transmission lines, towers, and related facilities. Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, and electric light and power facilities.
- Power plants and cogeneration plants, except hydroelectric. Includes electric and steam generating plants, cogenerating plants, and nuclear plants.
- Power plant, hydroelectric. Includes all types of hydroelectric power generating plants.
- Blast furnaces, chemical complexes, etc. Includes coke ovens and mining appurtenances such as tipples and washeries.

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- Sewage treatment plants. Includes sewage treatment and waste disposal plants.
 - Water treatment plants. Includes water filtration and water softening plants.
 - Urban mass transit. Includes subways, street cars, and light rail systems.
 - Railroad construction. Includes the construction of railroad beds, tracks, freight yards, and signal towers for railroad systems, excluding urban mass transit.
 - Conservation and development construction. Includes land reclamation, irrigation projects, drainage canals, levees, jetties, breakwaters, and flood control projects.
 - Dam and reservoir construction. Includes hydroelectric, water supply, and flood control dams and reservoirs.
 - Dry and Solid waste disposal. Includes all dry and solid waste disposal sites where non-hazardous waste is buried.
 - Harbor and port facilities. Includes docks, piers, and wharves.
 - Marine construction. Includes dredging, underwater rock removal, breakwaters, navigational channels, and locks.
 - Petrochemical plants and petroleum refineries. Includes petroleum related facilities.
 - Outdoor swimming pools. Includes wading pools and reflecting pools.
 - Fencing. Includes all types of fencing, except electronic containment fencing for pets.
 - Electronic containment fencing. Includes all types of electronic containment fencing for pets.
 - Recreational facilities. Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
 - Ships. Includes special trade contractors working on ships and boats such as painters, carpenters, joiners, electricians, etc.
 - Oil and gas fields. Includes road construction, land clearing contracting, land moving contracting, and land leveling contracting in oil and gas fields.
 - Oil and gas field gathering lines. Includes land clearing contracting, land moving contracting, and land leveling contracting.
 - Coal mines. Includes land clearing contracting, land moving contracting, and land leveling contracting.
 - Metal mines. Includes land clearing contracting, land moving contracting, and land leveling contracting.
 - Nonmetallic mines. Includes land clearing contracting, land moving contracting, and land leveling contracting.
 - All other miscellaneous nonbuilding construction. Includes all other types of nonbuilding construction.

KINDS OF BUSINESS ACTIVITIES

Includes dollar value of business done by business activity. Primary activities are construction activities that generate fifty-one percent or more of an establishment's dollar value of business done. Also included are other kinds of business activities. Other kinds of business activities include business receipts not reported as value of construction work. This item includes business receipts from retail and wholesale trade, rental of equipment without an operator, manufacturing, transportation, legal services, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included in other kinds of business activities.

VALUE OF CONSTRUCTION WORK FOR SPECIALIZED TYPE AND KIND OF BUSINESS

Includes value of construction work for one of two specialized categories. These categories include types of construction and kind-of-business activity. A construction establishment specializes in a type of construction when fifty-one percent or more of the construction work done is in one construction industry. The construction establishment reports each type of construction it performs as a percent of value of construction work. Types of construction refers to the types of buildings, structures, or facilities constructed or worked on by construction establishments in the reporting year. Specialization in types of construction displays data for establishments with payroll that falls within each percent range of specialization. A construction establishment specializes in a kind-of-business activity when fifty-one percent or more of the construction work done by the establishment is performed in one type of business activity. The construction establishment reports each kind-of-business activity engaged in as a percent of value of construction work. Kind-of-business activity refers to the kinds of business activities construction establishments perform throughout the reporting year. Examples of kind-of-business activity include highway and street construction, electrical contracting, carpentry contracting, and concrete contracting. Specialization in kind-of-business activity displays data for establishments with payroll that fall within each percent range of specialization.

SPECIALIZATION PERCENT

Includes data for establishments with payroll that fall within each percent range of specialization.

VALUE OF CONSTRUCTION WORK FOR ESTABLISHMENTS BY LOCATION OF WORK

This is the value of construction done in particular states by establishment. An establishment can do construction in one or more states.

Appendix B. NAICS Codes, Titles, and Descriptions

236220 COMMERCIAL AND INSTITUTIONAL BUILDING CONSTRUCTION

This U.S. industry comprises establishments primarily responsible for the construction (including new work, additions, alterations, maintenance, and repairs) of commercial and institutional buildings and related structures, such as stadiums, grain elevators, and indoor swimming pools. This industry includes establishments responsible for the on-site assembly of modular or prefabricated commercial and institutional buildings. Also included in this industry are commercial and institutional building general contractors, commercial and institutional building operative builders, commercial and institutional building design-build firms, and commercial and institutional building project construction management firms.

Appendix C.

Methodology

SOURCES OF THE DATA

The construction sector includes approximately 650,000 establishments that were determined to be in-scope of the 2002 Economic Census — Construction. This number includes those industries in the North American Industry Classification System (NAICS) definition of construction with at least one paid employee in 2002.

Establishments in the 2002 Economic Census are divided into those sent report forms and those not sent report forms. The coverage of and the method of obtaining census information from each are described below:

1. Establishments sent a report form:

Sample frame establishments. The sample frame consisted of the entire construction universe; there were no subpopulations that were explicitly removed from the sample frame. The sample frame was compiled from a list of all construction companies in the active records of the Internal Revenue Service (IRS) and the Social Security Administration (SSA) that are subject to the payment of Federal Insurance Contributions Act taxes. Under special arrangements, to safeguard their confidentiality, the U.S. Census Bureau obtains information on the location and classification of the companies, as well as their payroll and receipts data from these sources. Unfortunately, these sources do not provide establishment level information for companies with multiple locations. For multilocation companies, the establishment level information is directly obtained from the U.S. Census Bureau's Company Organization Survey. For single-location companies, the IRS-SSA information is generally sufficient for assigning the company to a specific six-digit NAICS industry code.

The 2002 NAICS structure for the construction sector was significantly revised from the 1997 NAICS structure. Initially, only a small proportion of the establishments in the sample frame could be directly assigned a 2002 NAICS industry code with a high degree of confidence. Therefore, a special classification card was mailed to 150,000 construction establishments in early 2002. The goal of this classification card was to obtain the current NAICS industry code prior to assembly of the sample frame for the economic census — construction sample.

2. Establishments not sent a report form:

a. Nonsample frame establishments. There were a limited number of establishments included in the business register who were completely unclassified at the time of the economic census — construction sampling operation. These establishments were mailed a general classification card in early 2003. A portion of these were ultimately determined to be in-scope of the economic census — construction. Since this determination was not made until after the sample selection operation had been completed; these establishments were treated as a supplement to the original universe and were sampled independently for inclusion in the derived estimates.

b. All nonemployers, i.e., all firms subject to federal income tax, with no paid employees, were also excluded from the 2002 sample frame, as in previous censuses. Nonemployers with significant levels of receipts data were identified and included in the census mailout under the presumption that the nonemployer status may have been incorrect. Those determined to have employees are included in this report. Data for nonemployers are not included in this report, but are released in the annual *Nonemployer Statistics* series.

The report forms used to collect information for establishments in this sector are available at help.econ.census.gov/econhelp/resources/.

A more detailed examination of census methodology is presented in the *History of the Economic Census* at www.census.gov/econ/www/history.html.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

The classifications for all establishments covered in the 2002 Economic Census — Construction are classified in 1 of 31 industries in accordance with the industry definitions in the *North American Industry Classification System (NAICS), United States, 2002* manual. Changes between 1997 and 2002 affecting this sector are discussed in the text at the beginning of this report. Tables at www.census.gov/epcd/naics02/n02ton97.htm identify those industries that changed between the 1997 North American Industry Classification System (NAICS) and 2002 NAICS.

In the NAICS system, an industry is generally defined as a group of establishments that use similar processes or have similar business activities. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by construction, value of business done, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the construction sector for 2002, there are 3 subsectors (three-digit NAICS), 10 industry groups (four-digit NAICS), 28 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 31 U.S. industries (six-digit NAICS).

ESTABLISHMENT BASIS OF REPORTING

The 2002 Economic Census — Construction is conducted on an establishment basis. A construction establishment is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. With some exceptions, a relatively permanent office is one that has been established for the management of more than one project or job and that is expected to be maintained on a continuing basis. Such establishment activities include, but are not limited to, estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each establishment operated during any part of the census year. The construction sector figures represent a tabulation of records for individual establishments, rather than for companies.

If an establishment was engaged in construction and one or more distinctly different lines of economic activity at the same place of business, it was requested to file a separate report for each activity, provided that the activity was of substantial size and separate records were maintained. If a separate establishment report could not be prepared for each activity, then a construction report was requested covering all activities of that establishment providing that the value of construction work exceeded the gross receipts from each of its other activities.

The 2002 Economic Census — Construction excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service construction establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE SAMPLE FRAME

The major objective of the sample design was to provide a sample that would provide reliable estimates at the state by industry level. For sample efficiency considerations, the establishments in the initial 2002 construction frame were partitioned into two components for developing estimates within the sample frame. The details of each are described below:

1. Probability-proportionate-to-size (pps) sample. There were three non-overlapping strata for sample selection. An independent sample was selected within each state by industry cell. The details of each stratum were defined as:

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- Stratum 1. This stratum was comprised of approximately 12,000 establishments associated with multilocation companies. The establishments of these multiunit companies were included in the construction sample with certainty.
 - Stratum 2. This stratum was comprised of approximately 145,000 single-location companies that could be classified into a valid 2002 NAICS industry. These cases accounted for approximately 75 percent of the payroll associated with single-location companies in construction. The industry code for most of these establishments was determined from the special classification card that was mailed in early 2002. This group was partitioned into state by NAICS (six-digit) cells and an independent sample selected from each cell. Within each cell, a probability-proportionate-to-size (pps) sampling strategy was used. Under this approach, the probability of selection for the sample for larger establishments is higher than for smaller establishments. There were approximately 80,000 establishments selected from this group.
 - Stratum 3. This stratum was comprised of the remaining single-location companies. For these companies, we did not have an updated 2002 NAICS industry code. The most recent classification information available for these companies was their 1997 NAICS. Using this 1997 NAICS industry code, this stratum was partitioned into state by NAICS (four-digit) cells; and an independent sample selected from each cell. Again, probability-proportionate-to-size sampling methodology was utilized. There were approximately 30,000 establishments selected from this group.

Subsequent to the initial census mail-out, companies that initiated operations in 2002 were identified via administrative sources. To assure proper representation of the entire in-scope population, simple random samples of these new operations were selected and mailed separately.

2. Estimation and variances. Based on the response data, establishments were assigned to the appropriate NAICS (six-digit) industry. At each level of tabulation, unbiased estimates were derived by summing the weighted establishment data where the establishment sample weight was equal to the inverse of its probability of selection for the construction sample.

The resulting estimates were generated from one of many possible samples and are subject to sampling variability. Estimates of this sample variability were independently derived at all levels of aggregation. These sampling variances were then aggregated to the publication levels for the computation of the relative standard errors.

RELIABILITY OF DATA

The estimates developed from the sample can differ somewhat from the results of a survey covering all companies in the sample lists, but are otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the construction sector is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically, comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data. They are presented in the form of relative standard errors that are the standard errors divided by the estimated values to which they refer.

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals, or ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples.

The complete-coverage value would be included in the range:

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- From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.
 - From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.
 - From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference is that the comparable complete-survey result would fall within the indicated ranges and the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection; reporting; coding; transcription; imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the U.S. Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables of this publication having an associated standard error exceeding 75 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DUPLICATION IN VALUE OF CONSTRUCTION WORK

The aggregate of value of construction work reported by all construction establishments in each of the industry, geographic area, or other groupings contains varying amounts of duplication. This is because the construction work of one firm may be subcontracted to other construction firms and may also be included in the subcontractors' value of construction work. Also, part of the value of construction results from the use of products of nonconstruction industries as input materials. These products are counted in the nonconstruction industry, as well as part of the value of construction. Value added avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or geographic areas. Value added for construction industries is defined as the dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels.

DISCLOSURE

In accordance with federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments in a specific industry or geographic area is not considered a disclosure; therefore, this information may be released even though other information is withheld. Techniques employed to limit disclosure are discussed at www.census.gov/epcd/ec02/disclosure.htm.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan and Micropolitan Statistical Areas

Not applicable for this report.

Appendix F.

Detailed NAICS and Bridge Code Titles: 2002

[The NAICS code title shown in Table 1 is a standard NAICS title from the North American Industry Classification System Manual. A more detailed title description for the NAICS code shown in Table 1 is included in this appendix]

2002 NAICS code	1997 bridge code	Detailed 2002 NAICS and 1997 bridge code title description
236115	23321000	New single family housing construction (except operative builders) Single family housing construction, general contractors
236116	23322000	New multifamily housing construction (except operative builders) Multifamily housing construction, general contractors
236117	23321000 23322000	New housing operative builders Single family housing construction, operative builders Multifamily housing construction, operative builders
236118	23321000 23322000	Residential remodelers Remodeling contractors, single family housing Remodeling contractors, multifamily housing
236210	23331000 23493000 23499000	Industrial building construction Other manufacturing and industrial building construction Other industrial nonbuilding construction Waste disposal plant construction
236220	23322000 23331000 23332000 23599000	Commercial and institutional building construction Barrack and dormitory construction Grain elevators, dry cleaning plants, and manufacturing and industrial warehouses construction Commercial and institutional building construction Indoor swimming pool contractors
237110	23491000 23499000 23581000	Water and sewer line and related structures construction Water and sewer line, mains, and related structures (including pumping stations, etc.) construction Sewage and water treatment plants and irrigation systems construction Water well drilling contractors
237120	21311200 23491000 23493000	Oil and gas pipeline and related structures construction Construction of oil and gas field gathering lines Oil and gas pipelines, mains, and related and related structures (including oil storage tanks, etc) construction Petrochemical plants and refineries construction
237130	23492000 23493000	Power and communication line and related structures construction Power and communication transmission line construction Power generation plants and transformer stations construction, except hydroelectric
237210	23311000	Land subdivision Land subdivision and land development
237310	23411000 23412000 23521000	Highway, street, and bridge construction Highway and street construction Bridge construction Highway and traffic line painting contractors
237990	22412000 23499000 23599000	Other heavy and civil engineering construction Tunnel construction All other heavy and civil engineering construction Anchored earth retention contractors
238110	23571000	Poured concrete foundation and structure contractors Concrete (except paving) contractors
238120	23591000	Structural steel and precast concrete contractors Other structural steel erection contractors
238130	23551000	Framing contractors Framing carpentry contractors
238140	23541000 23542000	Masonry contractors Masonry and stone contractors Stucco contractors
238150	23592000	Glass and glazing contractors Glass and glazing contractors
238160	23561000	Roofing contractors Roofing contractors
238170	23561000	Siding contractors Siding (including gutters and downspouts) contractors
238190	23591000 23599000	Other foundation, structure, and building exterior contractors Metal curtain walls and metal furring installation contractors Forming, ornamental metal work installation, and foundation, structure, and building exterior contractors
238210	23511000 23531000	Electrical contractors Environmental controls installation contractors Electrical contractors
238220	23511000 23595000	Plumbing, heating, and air-conditioning contractors Other plumbing, heating, and air-conditioning contractors Scrubber, dust collection, and other industrial ventilation installation contractors
238290	23595000 23599000	Other building equipment contractors Other building equipment and machinery installation contractors Boiler, duct, and pipe insulation and service station equipment, lightning rod, bowling alley, church bell, and tower clock installation contractors
238310	23542000	Drywall and insulation contractors Other drywall, plastering, acoustical, and insulation contractors
238320	23521000	Painting and wall covering contractors Other painting and wall covering contractors

[The NAICS code title shown in Table 1 is a standard NAICS title from the North American Industry Classification System Manual. A more detailed title description for the NAICS code shown in Table 1 is included in this appendix]

2002 NAICS code	1997 bridge code	Detailed 2002 NAICS and 1997 bridge code title description
238330	23552000	Flooring contractors Floor laying and other floor contractors
238340	23543000	Tile and terrazzo contractors Tile, marble, terrazzo, and mosaic contractors
238350	23551000	Finish carpentry contractors Finish carpentry contractors
238390	23561000 23599000	Other building finishing contractors Sheet metal, except roofing and siding contractors Trade show exhibits installation and dismantling, spectator seating, modular furniture, window covering fixture installation, and other building finishing contractors
238910	21311200 21311300 21311400 21311500 23499000 23593000 23594000 23599000	Site preparation contractors Site preparation and related construction activities for oil and gas operations Site preparation and related construction activities for coal mining Site preparation and related construction activities for metal mining Site preparation and related construction activities for nonmetallic mining, except fuels Construction equipment (except cranes) rental with operator and right-of-way clearing and line slashing, blasting, and trenching contractors Excavation contractors Wrecking and demolition contractors Dewatering and core drilling and test boring for construction contractors
238990	23499000 23571000 23599000 56172000	All other specialty trade contractors Crane rental with operator Residential and commercial asphalt, brick, and concrete paving contractors All other special trade contractors Cleaning building exteriors, except sand blasting

