

Electrical Contractors: 2002

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2002 Economic Census

Construction

Industry Series



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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
238210		Electrical Contractors.....	62 586	771 184	29 324 486	82 141 261	77 671 846	51 676 783	26 647 176	1 188 201
	23511000	Plumbing, heating, and air-conditioning contractors (pt)	761	10 436	471 972	1 354 144	1 216 240	871 080	364 263	36 408
	23531000	Electrical contractors	61 825	760 748	28 852 514	80 787 117	76 455 606	50 805 703	26 282 914	1 151 793

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	
238210, Electrical Contractors										
United States.....	62 586	771 184	606 403	S	611 825	629 834	607 770	29 324 486	22 227 743	1
Alabama.....	800	9 783	7 770	7 672	7 666	7 793	7 950	291 981	222 626	5
Alaska.....	153	2 186	1 654	1 402	1 594	1 909	1 711	93 263	71 106	8
Arizona.....	1 152	14 635	11 839	11 546	11 780	12 134	11 898	487 997	359 644	5
Arkansas.....	517	4 446	3 472	3 453	3 477	3 564	3 395	124 084	90 986	8
California.....	6 777	81 542	63 079	60 431	61 819	66 181	63 885	3 339 728	2 431 856	3
Colorado.....	1 475	19 415	15 645	14 112	16 329	16 530	15 610	708 432	557 909	6
Connecticut.....	1 028	9 630	7 138	7 136	7 353	7 318	6 746	401 638	299 374	3
Delaware.....	213	2 438	1 954	1 893	1 954	2 002	1 968	91 041	69 477	9
District of Columbia.....	21	387	D	D	352	338	285	D	9 779	—
Florida.....	3 563	49 718	39 981	38 506	40 491	40 423	40 504	1 546 101	1 179 791	3
Georgia.....	2 182	25 707	20 328	18 913	20 690	21 488	20 218	815 936	622 304	3
Hawaii.....	207	2 730	D	D	2 201	2 264	2 366	103 166	D	7
Idaho.....	383	3 604	2 875	2 296	3 020	3 158	3 026	106 099	84 231	5
Illinois.....	2 709	32 748	25 504	24 510	26 008	26 500	24 998	1 520 402	1 159 120	3
Indiana.....	1 317	14 994	11 650	11 531	12 061	11 888	11 120	609 891	481 907	4
Iowa.....	821	8 057	6 219	5 674	6 384	6 447	6 369	274 875	218 776	5
Kansas.....	612	6 301	4 897	4 415	5 039	5 172	4 960	234 912	179 346	5
Kentucky.....	758	9 136	7 132	6 937	7 066	7 413	7 113	314 289	240 132	4
Louisiana.....	859	14 547	11 776	11 980	11 913	11 492	11 721	465 825	374 307	6
Maine.....	438	2 519	D	D	1 870	1 962	1 889	82 960	62 061	9
Maryland.....	1 345	20 550	16 249	15 416	16 141	17 009	16 431	788 784	581 335	3
Massachusetts.....	1 868	22 961	17 665	16 369	17 774	18 358	18 159	1 001 650	754 220	3
Michigan.....	1 984	22 773	17 396	15 910	17 289	18 905	17 478	961 479	728 355	4
Minnesota.....	1 579	16 068	12 301	10 826	12 466	13 180	12 732	681 480	524 820	4
Mississippi.....	435	4 363	3 587	3 371	3 623	3 723	3 632	130 400	104 106	7
Missouri.....	1 072	15 755	12 440	11 306	12 719	13 398	12 336	657 755	D	5
Montana.....	283	1 894	1 418	1 351	1 416	1 508	1 398	59 090	44 096	8
Nebraska.....	486	4 788	3 734	3 494	3 798	3 862	3 781	165 321	128 149	6
Nevada.....	327	9 457	7 498	6 502	7 651	7 887	7 951	334 558	266 337	6
New Hampshire.....	488	3 228	2 344	2 264	2 348	2 556	2 208	107 506	D	8
New Jersey.....	2 557	26 293	20 649	19 745	20 681	21 497	20 672	1 117 775	860 040	3
New Mexico.....	471	5 568	4 296	3 550	4 415	4 664	4 556	169 351	119 109	7
New York.....	4 014	52 858	41 636	39 141	42 000	43 580	41 823	2 553 041	1 997 816	3
North Carolina.....	2 525	23 969	19 084	18 007	19 762	19 895	18 670	707 759	533 113	4
North Dakota.....	148	1 516	1 110	1 008	1 091	1 219	1 122	47 135	D	8
Ohio.....	1 885	24 711	19 310	18 064	19 255	20 271	19 651	950 481	723 917	4
Oklahoma.....	856	7 377	5 803	5 632	5 944	5 903	5 734	242 642	184 855	3
Oregon.....	768	9 786	7 458	7 380	7 263	7 716	7 472	436 602	331 840	4
Pennsylvania.....	2 342	28 713	22 523	21 355	22 928	23 530	22 277	1 216 566	931 213	4
Rhode Island.....	289	2 893	2 375	2 552	2 547	2 287	2 116	98 400	75 141	5
South Carolina.....	904	10 024	8 094	8 175	8 149	8 212	7 841	328 366	252 281	5
South Dakota.....	297	1 992	1 465	1 376	1 468	1 576	1 438	55 773	42 172	7
Tennessee.....	890	15 256	12 144	11 461	12 193	12 577	12 347	510 937	377 848	5
Texas.....	3 451	57 993	46 519	45 107	47 453	46 954	46 563	1 887 367	1 401 515	2
Utah.....	541	6 411	5 012	4 897	4 979	5 122	5 051	241 904	180 184	7
Vermont.....	175	1 933	1 528	1 710	1 428	1 490	1 483	50 380	38 703	5
Virginia.....	1 537	20 890	16 423	15 627	16 840	16 726	16 498	715 902	500 096	3
Washington.....	1 383	17 014	13 557	13 293	13 738	13 987	13 209	707 770	534 085	4
West Virginia.....	327	3 560	2 786	2 673	2 548	3 054	2 871	139 385	117 812	9
Wisconsin.....	1 170	14 370	11 476	11 218	11 516	11 921	11 250	575 779	446 692	4
Wyoming.....	204	1 698	1 291	1 249	1 336	1 293	1 288	D	44 538	6

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 3. General Statistics for Establishments by State: 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 establishment	E ¹	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	Total rental costs	Capital expenditures, other than land	End-of-year gross book value of depreciable assets	Relative standard error of estimate (percent) for column—	
		A	B	C	D	E	F	G	H	I	C
238210, Electrical Contractors											
United States	1	82 141 261	77 671 846	51 676 783	26 647 176	4 469 415	1 292 734	1 188 201	S	1	2
Alabama	1	917 401	853 480	526 750	339 183	63 921	13 930	17 841	104 182	6	21
Alaska	1	277 832	267 288	187 661	81 401	10 544	5 758	7 583	37 797	7	8
Arizona	1	1 317 192	1 262 432	787 500	483 376	54 761	22 874	21 202	161 145	5	15
Arkansas	1	410 087	386 944	229 228	160 618	23 142	6 450	9 423	67 366	5	23
California	1	9 801 004	9 119 490	6 019 910	3 206 944	681 514	177 505	141 824	994 564	2	12
Colorado	1	1 931 546	1 822 168	1 089 426	740 141	109 378	39 136	26 438	191 797	5	9
Connecticut	1	1 152 075	1 074 514	724 052	369 793	77 561	16 713	15 669	119 922	2	7
Delaware	1	255 816	244 050	164 524	80 571	11 766	4 742	2 782	34 082	6	13
District of Columbia	3	D	D	29 354	8 550	D	453	312	S	5	—
Florida	1	4 355 919	4 148 669	2 715 802	1 470 364	207 250	71 237	65 510	490 462	3	6
Georgia	1	2 339 257	2 193 194	1 434 562	774 308	146 063	39 528	37 324	298 941	3	6
Hawaii	1	372 229	346 764	223 111	126 320	25 465	6 431	10 526	56 794	5	2
Idaho	2	327 196	316 041	203 521	113 347	11 155	4 962	5 647	50 189	5	18
Illinois	1	4 130 454	3 870 032	2 629 494	1 261 562	260 422	59 095	54 127	465 014	2	6
Indiana	1	1 721 554	1 623 422	1 088 595	549 738	98 132	24 457	16 945	205 652	4	7
Iowa	1	781 064	751 289	497 915	273 239	29 775	8 858	14 498	125 976	4	7
Kansas	1	661 585	632 537	421 629	218 264	29 048	7 118	11 801	83 195	4	16
Kentucky	1	864 490	830 415	564 908	273 160	34 075	12 797	11 786	126 115	4	7
Louisiana	1	1 237 489	1 174 219	787 244	393 222	63 270	23 056	14 856	150 815	6	11
Maine	2	246 375	238 066	154 070	86 996	8 308	4 239	5 433	42 338	9	10
Maryland	1	2 117 886	2 018 226	1 303 547	719 329	99 660	27 863	30 350	241 196	3	6
Massachusetts	1	2 624 001	2 508 370	1 670 182	846 277	115 631	39 959	31 977	231 916	3	10
Michigan	1	2 689 854	2 526 354	1 755 529	797 426	163 500	49 181	50 105	342 473	4	18
Minnesota	1	1 886 272	1 802 996	1 192 936	615 763	83 276	28 417	33 741	293 619	3	9
Mississippi	2	390 353	360 325	230 512	131 248	30 028	6 962	8 908	68 035	7	7
Missouri	1	1 788 677	1 691 893	1 127 653	574 542	96 784	20 899	26 272	188 347	4	8
Montana	1	193 750	184 493	125 951	62 809	9 257	2 401	3 914	36 322	8	14
Nebraska	—	492 350	467 684	293 384	181 778	24 666	7 161	8 327	73 849	5	10
Nevada	1	987 162	943 035	600 166	346 122	44 127	14 140	9 719	77 969	5	10
New Hampshire	2	311 160	297 482	191 887	106 710	13 678	5 178	9 214	52 336	7	30
New Jersey	2	2 995 806	2 846 729	2 033 106	850 127	149 077	41 625	38 763	257 474	3	7
New Mexico	1	481 689	455 826	302 628	161 090	25 864	8 477	13 814	96 081	6	25
New York	1	7 001 807	6 609 611	4 672 556	1 973 403	392 196	95 927	65 349	563 201	2	7
North Carolina	1	2 027 578	1 920 723	1 267 628	670 295	106 854	31 581	39 435	277 960	3	16
North Dakota	1	142 606	D	78 124	61 646	D	2 070	2 180	25 211	S	12
Ohio	1	2 644 779	2 521 861	1 662 230	872 216	122 918	40 820	38 656	338 725	4	6
Oklahoma	1	807 290	752 526	492 622	264 288	54 763	12 929	13 251	122 045	6	7
Oregon	—	1 101 815	1 056 649	735 134	328 935	45 166	21 990	14 033	103 488	4	8
Pennsylvania	1	3 313 497	3 157 135	2 112 427	1 070 230	156 362	46 216	39 024	384 937	3	5
Rhode Island	1	279 218	252 477	169 841	83 095	26 741	3 740	3 093	28 277	4	15
South Carolina	1	824 391	771 397	508 018	267 075	52 994	12 341	11 574	112 623	5	12
South Dakota	1	179 315	171 631	106 787	66 106	7 684	2 838	2 091	29 989	5	8
Tennessee	1	1 384 638	1 313 357	858 583	462 826	71 281	22 438	19 650	177 382	4	12
Texas	1	5 489 328	5 198 098	3 363 515	1 885 637	291 231	86 037	77 157	699 040	2	5
Utah	1	676 444	644 511	382 279	269 788	31 933	11 068	10 991	110 117	6	6
Vermont	—	D	128 802	83 564	46 204	D	2 220	2 528	20 151	6	13
Virginia	—	2 020 513	1 900 148	1 266 391	644 837	120 366	35 696	29 078	238 295	3	7
Washington	1	1 950 811	1 853 268	1 230 422	638 294	97 543	34 269	29 645	209 924	3	8
West Virginia	1	324 701	312 334	231 239	82 889	12 368	5 488	4 859	35 870	8	18
Wisconsin	—	1 567 886	1 504 375	1 034 701	497 195	63 510	20 559	25 107	205 059	4	11
Wyoming	—	171 790	167 410	113 985	57 893	4 380	2 904	3 864	32 276	7	15

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 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.

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)
238210, Electrical Contractors		
All establishments number	62 586	1
All employees number	771 184	1
Construction workers in March number	S	S
Construction workers in May number	611 825	1
Construction workers in August number	629 834	1
Construction workers in November number	607 770	1
Average number of construction workers number	606 403	1
Other employees in March number	S	S
Other employees in May number	159 701	1
Other employees in August number	162 004	1
Other employees in November number	161 751	1
Average number of other employees number	164 781	1
Total payroll \$1,000	29 324 486	1
Construction workers \$1,000	22 227 743	1
Other employees \$1,000	7 096 743	1
First-quarter payroll, all employees \$1,000	7 227 489	1
Fringe benefits, all employees \$1,000	7 676 807	1
Legally required expenditures \$1,000	4 074 143	1
Voluntary expenditures \$1,000	3 602 664	1
Value of business done ¹ \$1,000	82 793 374	1
Value of construction work ¹ \$1,000	82 141 261	1
Value of construction work on government owned projects \$1,000	20 426 056	1
Value of construction work on federally owned projects \$1,000	5 026 989	2
Value of construction work on state and locally owned projects \$1,000	15 399 067	1
Value of construction work on privately owned projects \$1,000	61 715 204	1
Other business receipts \$1,000	652 113	3
Value of construction work subcontracted in from others \$1,000	48 848 778	1
Net value of construction work \$1,000	77 671 846	1
Value added \$1,000	51 676 783	1
Selected costs \$1,000	31 116 591	1
Materials, parts, and supplies \$1,000	25 661 942	1
Construction work subcontracted out to others \$1,000	4 469 415	1
Selected power, fuels, and lubricants \$1,000	985 234	1
Purchased electricity \$1,000	157 621	1
Natural gas and manufactured gas \$1,000	42 099	2
Gasoline and diesel fuel \$1,000	754 580	1
On-highway use of gasoline and diesel fuel \$1,000	687 714	1
Off-highway use of gasoline and diesel fuel \$1,000	66 866	2
All other fuels and lubricants \$1,000	30 934	3
Total rental costs \$1,000	1 292 734	1
Machinery and equipment \$1,000	658 797	1
Buildings \$1,000	633 937	1
Selected purchased services \$1,000	2 235 145	1
Communication services \$1,000	693 053	1
Repairs to buildings and other structures \$1,000	345 727	1
Repairs to machinery and equipment \$1,000	535 526	2
Legal services \$1,000	144 558	3
Accounting, auditing, and bookkeeping services \$1,000	277 837	4
Advertising and promotional services \$1,000	S	S
Beginning-of-year gross book value of depreciable assets \$1,000	8 694 585	1
Capital expenditures, other than land \$1,000	1 188 201	2
Retirements and disposition of depreciable assets \$1,000	S	S
End-of-year gross book value of depreciable assets \$1,000	S	S
Depreciation charges during year \$1,000	1 032 097	1
Establishments with inventories number	18 803	-
Value of construction work for establishments with inventories \$1,000	36 917 687	-
End-of-2002, inventories of materials and supplies \$1,000	1 015 296	2
End-of-2001, inventories of materials and supplies \$1,000	950 923	2
Establishments with no inventories number	36 279	-
Value of construction work for establishments with no inventories \$1,000	39 054 840	-
Establishments not reporting inventories number	7 503	-
Value of construction work for establishment not reporting inventores \$1,000	6 168 734	-

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
238210, Electrical Contractors											
All establishments	1	62 586	771 184	29 324 486	82 793 374	82 141 261	77 671 846	51 676 783	26 647 176	4 469 415	1
Establishments with—											
1 to 4 employees	—	33 123	69 768	1 675 823	6 337 545	6 280 374	5 972 513	3 930 831	2 098 852	307 862	2
5 to 9 employees	—	13 502	88 287	2 683 860	7 938 177	7 879 308	7 555 747	5 064 644	2 549 972	323 561	3
10 to 19 employees	—	7 900	105 715	3 604 244	9 920 105	9 821 672	9 434 596	6 266 735	3 266 294	387 076	3
20 to 49 employees	—	5 401	159 234	6 297 533	17 237 751	17 091 071	16 217 050	10 589 473	5 774 257	874 021	2
50 to 99 employees	—	1 580	108 220	4 574 808	12 472 354	12 363 657	11 673 394	7 736 510	4 045 581	690 263	1
100 to 249 employees	—	821	123 682	5 359 270	14 889 343	14 768 118	13 892 890	9 301 526	4 712 589	875 228	1
250 to 499 employees	—	189	63 535	2 722 177	7 634 405	7 589 829	6 948 319	4 699 619	2 293 276	641 510	—
500 to 999 employees	—	57	37 226	1 630 029	4 479 691	4 466 441	4 201 500	2 893 973	1 320 777	264 941	—
1,000 employees or more	—	12	15 517	776 743	1 884 003	1 880 791	1 775 837	1 193 471	585 578	104 954	—

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
238210, Electrical Contractors											
All establishments	1	62 586	771 184	29 324 486	82 793 374	82 141 261	77 671 846	51 676 783	26 647 176	4 469 415	1
Establishments with value of business done—											
Less than \$25,000	1	981	S	S	S	S	S	S	S	S	S
\$25,000 to \$49,999	—	2 270	S	S	S	S	S	S	S	S	S
\$50,000 to \$99,999	—	6 516	9 782	149 055	483 377	477 721	458 653	309 173	155 136	19 068	5
\$100,000 to \$249,999	—	16 551	39 955	847 609	2 809 359	2 783 932	2 673 165	1 778 985	919 607	110 767	3
\$250,000 to \$499,999	—	12 538	56 931	1 453 201	4 440 728	4 401 100	4 235 770	2 791 613	1 483 785	165 330	3
\$500,000 to \$999,999	—	9 508	78 409	2 375 350	6 699 389	6 655 460	6 389 886	4 248 855	2 184 959	265 574	3
\$1,000,000 to \$2,499,999	—	8 052	127 328	4 471 579	12 366 008	12 255 794	11 761 641	7 805 913	4 065 942	494 152	2
\$2,500,000 to \$4,999,999	—	3 100	101 965	3 998 862	10 859 526	10 764 282	10 212 906	6 658 897	3 649 253	551 376	2
\$5,000,000 to \$9,999,999	—	1 730	106 278	4 373 562	11 931 981	11 827 477	11 196 940	7 366 481	3 934 964	630 536	1
\$10,000,000 or more	—	1 338	246 694	11 623 163	33 096 781	32 869 381	30 641 745	20 649 919	10 219 227	2 227 635	—

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
238210, Electrical Contractors								
Total	82 141 261	42 630 528	24 610 982	14 899 751	—	1	1	1
Building construction, total	72 888 374	37 468 687	21 908 650	13 511 037	—	1	1	1
Single-family houses, detached and attached	14 347 290	8 331 616	2 901 667	3 114 007	1	2	2	2
Single-family houses, detached	12 413 358	7 230 755	2 559 745	2 622 857	2	2	3	3
Single-family houses, attached	1 933 932	1 100 861	341 921	491 150	4	6	6	5
Office buildings	15 182 127	6 801 616	5 630 220	2 750 291	1	1	1	2
Stores, restaurants, and automobile service stations, and other commercial buildings	9 103 481	4 715 467	2 592 312	1 795 702	1	2	2	2
Educational buildings	7 187 761	3 655 131	2 747 095	785 534	1	2	2	3
Other building construction	27 067 715	13 964 857	8 037 356	5 065 502	1	1	1	2
Nonbuilding construction, total	D	D	2 702 332	1 388 714	S	S	2	2
Other nonbuilding construction	D	D	2 702 332	1 388 714	S	S	2	2
Construction work, nsk	D	D	—	—	S	S	—	—

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
238210, Electrical Contractors								
Total	62 586	771 184	29 324 486	X	77 671 846	51 676 783	4 469 415	1
Establishments specializing 51 percent or more...	40 309	425 602	15 546 814	35 079 415	41 296 848	27 850 116	2 418 784	2
Building construction, total								
Establishments specializing 51 percent or more...	38 633	389 082	13 965 211	31 087 470	37 013 082	24 957 198	2 038 031	2
Specialization 100 percent	12 845	103 581	3 514 102	9 886 685	9 311 867	6 383 929	574 818	5
Specialization 90 to 99 percent	5 720	56 842	2 010 606	5 232 843	5 369 173	3 645 873	260 326	6
Specialization 80 to 89 percent	5 739	54 701	1 926 891	4 591 219	5 335 301	3 499 298	269 868	2
Specialization 70 to 79 percent	5 635	64 212	2 198 297	4 547 786	5 956 761	3 873 740	288 941	5
Specialization 60 to 69 percent	6 155	65 793	2 535 872	4 239 144	6 520 586	4 474 425	338 469	3
Specialization 51 to 59 percent	2 539	43 954	1 779 444	2 589 792	4 519 395	3 079 933	305 609	3
Single-family houses, detached and attached								
Establishments specializing 51 percent or more...	22 215	144 082	3 929 054	9 748 827	11 303 400	7 491 256	502 924	6
Specialization 100 percent	7 066	42 034	1 151 499	3 461 282	3 276 404	2 152 026	184 879	14
Specialization 90 to 99 percent	3 826	26 528	736 237	1 989 972	2 052 336	1 370 590	80 455	16
Specialization 80 to 89 percent	3 465	19 444	525 581	1 440 864	1 685 821	1 061 540	74 638	6
Specialization 70 to 79 percent	3 310	24 196	596 855	1 310 873	1 732 456	1 158 606	60 274	11
Specialization 60 to 69 percent	3 307	20 678	559 574	986 461	1 542 385	1 039 914	51 273	8
Specialization 51 to 59 percent	1 241	11 202	359 308	559 374	1 013 998	708 578	51 407	9
Single-family houses, detached								
Establishments specializing 51 percent or more...	20 647	133 318	3 629 584	9 061 247	10 529 188	7 013 957	445 005	4
Specialization 100 percent	6 710	39 048	1 058 010	3 201 784	3 057 649	2 037 822	144 136	8
Specialization 90 to 99 percent	3 477	24 414	686 109	1 866 790	1 923 885	1 292 236	76 894	16
Specialization 80 to 89 percent	3 188	18 175	495 294	1 360 186	1 589 532	1 004 121	72 064	6
Specialization 70 to 79 percent	2 992	22 152	547 146	1 208 023	1 598 559	1 071 050	54 155	11
Specialization 60 to 69 percent	3 078	18 757	495 661	882 001	1 375 449	919 883	47 172	8
Specialization 51 to 59 percent	1 203	10 773	347 364	542 462	984 115	688 845	50 585	9
Single-family houses, attached								
Establishments specializing 51 percent or more...	1 568	10 763	299 470	687 580	774 211	477 298	57 920	42
Specialization 100 percent	356	2 987	93 490	259 498	218 755	114 204	40 743	59
Specialization 90 to 99 percent	350	2 114	50 128	123 182	128 451	78 354	3 561	22
Specialization 80 to 89 percent	277	1 269	30 287	80 678	96 289	57 419	2 574	14
Specialization 70 to 79 percent	319	2 044	49 709	102 849	133 897	87 556	6 119	32
Specialization 60 to 69 percent	229	1 921	63 913	104 461	166 936	120 032	4 101	34
Specialization 51 to 59 percent	38	429	11 944	16 912	29 883	19 733	822	36
Office buildings								
Establishments specializing 51 percent or more...	4 708	79 077	3 716 254	7 671 786	9 180 319	6 462 525	538 960	2
Specialization 100 percent	1 849	21 162	933 329	2 439 034	2 285 969	1 673 692	153 065	6
Specialization 90 to 99 percent	634	10 810	522 469	1 249 801	1 296 506	974 914	60 370	5
Specialization 80 to 89 percent	499	11 194	544 288	1 208 849	1 418 832	924 346	68 248	3
Specialization 70 to 79 percent	530	9 792	464 100	846 817	1 127 764	761 391	45 344	5
Specialization 60 to 69 percent	773	16 058	829 917	1 342 956	2 035 588	1 436 490	130 480	2
Specialization 51 to 59 percent	424	10 061	422 151	584 329	1 015 660	691 692	81 453	3
Stores, restaurants, and automobile service stations, and other commercial buildings								
Establishments specializing 51 percent or more...	3 617	44 600	1 577 580	3 616 362	4 281 254	2 933 578	254 329	4
Specialization 100 percent	1 522	10 712	378 586	1 129 961	1 063 066	753 958	66 894	10
Specialization 90 to 99 percent	331	5 566	217 609	557 107	562 438	354 723	32 682	4
Specialization 80 to 89 percent	496	9 009	261 874	600 278	690 577	498 219	34 971	7
Specialization 70 to 79 percent	358	6 761	265 596	608 518	772 125	532 068	48 745	13
Specialization 60 to 69 percent	611	5 955	199 916	343 238	532 975	348 668	25 635	18
Specialization 51 to 59 percent	300	6 596	253 998	377 260	660 074	445 942	45 401	4
Educational buildings								
Establishments specializing 51 percent or more...	1 550	28 590	1 136 936	2 428 028	2 997 678	1 862 467	229 932	6
Specialization 100 percent	390	3 179	124 155	375 252	349 101	215 830	26 150	20
Specialization 90 to 99 percent	153	3 221	130 791	337 060	330 868	213 605	31 788	19
Specialization 80 to 89 percent	250	5 302	218 019	500 320	570 490	340 984	38 166	6
Specialization 70 to 79 percent	360	6 880	251 519	530 979	675 139	396 799	57 567	17
Specialization 60 to 69 percent	300	7 199	291 085	494 412	751 940	501 586	49 098	8
Specialization 51 to 59 percent	97	2 809	121 366	190 004	320 139	193 662	27 163	20
Other building construction								
Establishments specializing 51 percent or more...	6 543	92 733	3 605 387	7 622 468	9 250 432	6 207 374	511 886	2
Specialization 100 percent	2 018	26 493	926 533	2 481 157	2 337 326	1 588 422	143 830	4
Specialization 90 to 99 percent	775	10 716	403 499	1 098 902	1 127 025	732 041	55 032	8
Specialization 80 to 89 percent	1 030	9 751	377 129	840 909	969 582	674 209	53 845	5
Specialization 70 to 79 percent	1 077	16 584	620 227	1 250 598	1 649 277	1 024 876	77 010	6
Specialization 60 to 69 percent	1 165	15 903	655 380	1 072 076	1 657 697	1 147 767	81 983	4
Specialization 51 to 59 percent	478	13 286	622 620	878 825	1 509 524	1 040 060	100 186	4

See footnotes at end of table

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

[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
Nonbuilding construction, total								
Establishments specializing 51 percent or more...	1 674	D	D	D	D	D	D	S
Specialization 100 percent	863	15 656	667 151	1 988 309	1 822 343	1 194 782	165 965	20
Specialization 90 to 99 percent	193	4 334	191 072	525 228	510 980	349 704	53 232	5
Specialization 80 to 89 percent	200	3 675	174 376	458 455	517 380	361 443	32 161	31
Specialization 70 to 79 percent	156	4 187	196 293	390 826	497 081	359 862	29 235	8
Specialization 60 to 69 percent	155	4 127	183 375	359 127	530 568	344 996	53 593	8
Specialization 51 to 59 percent	106	D	D	D	D	D	D	S
Other nonbuilding construction								
Establishments specializing 51 percent or more...	1 674	D	D	D	D	D	D	S
Specialization 100 percent	863	15 656	667 151	1 988 309	1 822 343	1 194 782	165 965	20
Specialization 90 to 99 percent	193	4 334	191 072	525 228	510 980	349 704	53 232	5
Specialization 80 to 89 percent	200	3 675	174 376	458 455	517 380	361 443	32 161	31
Specialization 70 to 79 percent	156	4 187	196 293	390 826	497 081	359 862	29 235	8
Specialization 60 to 69 percent	155	4 127	183 375	359 127	530 568	344 996	53 593	8
Specialization 51 to 59 percent	106	D	D	D	D	D	D	S
Construction work, nsk								
Establishments specializing 51 percent or more...	2	D	D	D	D	D	D	S
Specialization 100 percent	2	D	D	D	D	D	D	S

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)
238210, Electrical Contractors		
Total	82 793 374	1
Special trade contractors, total	64 787 654	1
Electric power installation and service contractor, including lighting	57 494 239	1
Telecommunications installation and service contractor (except transmission lines)	7 293 415	2
All other construction activities	17 312 362	1
Other business activities secondary to construction activities, total	D	S
All other business activities secondary to construction activities	D	S
Kind of business activity, nsk	D	S

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
238210, Electrical Contractors								
Total	62 586	771 184	29 324 486	X	77 671 846	51 676 783	4 469 415	1
Establishments specializing 51 percent or more...	58 448	706 063	26 757 212	67 278 967	70 984 204	47 070 172	3 996 175	1
Special trade contractors, total								
Establishments specializing 51 percent or more...	52 571	629 689	23 835 419	59 614 543	63 057 520	41 737 701	3 370 798	2
Specialization 100 percent	33 756	313 631	10 566 125	30 410 279	28 916 738	19 107 365	1 493 541	2
Specialization 90 to 99 percent	8 639	119 887	4 728 420	12 078 014	12 330 107	8 077 971	564 245	3
Specialization 80 to 89 percent	4 449	80 396	3 480 864	7 886 376	8 949 838	5 903 895	507 828	7
Specialization 70 to 79 percent	2 992	63 935	2 812 068	5 532 662	7 086 164	4 693 180	438 494	6
Specialization 60 to 69 percent	1 841	35 719	1 621 715	2 732 581	4 088 309	2 790 855	234 351	3
Specialization 51 to 59 percent	895	16 121	626 227	974 632	1 686 365	1 164 436	132 338	11
Electric power installation and service contractor, including lighting								
Establishments specializing 51 percent or more...	47 633	576 217	21 832 403	54 436 277	57 841 769	38 030 921	2 999 203	1
Specialization 100 percent	29 982	276 026	9 215 021	26 553 085	25 307 585	16 595 745	1 245 500	2
Specialization 90 to 99 percent	8 305	114 998	4 530 754	11 594 627	11 843 364	7 731 889	535 787	2
Specialization 80 to 89 percent	4 146	76 775	3 345 768	7 564 973	8 590 372	5 642 338	482 377	2
Specialization 70 to 79 percent	2 851	61 768	2 722 154	5 379 704	6 886 609	4 528 976	429 077	7
Specialization 60 to 69 percent	1 642	33 081	1 502 317	2 539 433	3 803 117	2 583 590	214 944	2
Specialization 51 to 59 percent	707	13 569	516 389	804 455	1 410 720	948 383	91 518	12
Telecommunications installation and service contractor (except transmission lines)								
Establishments specializing 51 percent or more...	4 938	53 472	2 003 016	5 178 266	5 215 752	3 706 780	371 595	5
Specialization 100 percent	3 774	37 605	1 351 104	3 857 194	3 609 153	2 511 620	248 041	6
Specialization 90 to 99 percent	333	4 889	197 667	483 387	486 743	346 082	28 458	21
Specialization 80 to 89 percent	303	3 621	135 096	321 402	359 465	261 556	25 451	24
Specialization 70 to 79 percent	141	2 167	89 914	152 958	199 555	164 204	9 418	11
Specialization 60 to 69 percent	199	2 638	119 398	193 148	285 192	207 265	19 407	16
Specialization 51 to 59 percent	188	2 551	109 838	170 177	275 645	216 053	40 819	7
All other construction activities								
Establishments specializing 51 percent or more...	5 875	D	D	D	D	D	D	S
Specialization 100 percent	3 341	45 946	1 668 716	4 854 415	4 548 026	3 166 203	306 389	6
Specialization 90 to 99 percent	798	9 409	387 870	1 068 713	1 068 287	723 597	68 902	15
Specialization 80 to 89 percent	614	5 101	217 355	493 841	532 780	328 183	60 460	52
Specialization 70 to 79 percent	399	5 107	193 372	406 501	526 094	341 840	28 722	7
Specialization 60 to 69 percent	504	5 709	222 022	426 456	628 224	420 246	49 686	9
Specialization 51 to 59 percent	219	D	D	D	D	D	D	S
Kind of business activity, nsk								
Establishments specializing 51 percent or more...	2	D	D	D	D	D	D	S
Specialization 100 percent	2	D	D	D	D	D	D	S

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—
238210, Electrical Contractors		
United States	82 141 261	1
Construction work done in—		
Alabama	863 299	6
Alaska	302 358	7
Arizona	1 456 012	4
Arkansas	399 161	5
California	9 799 720	2
Colorado	1 894 339	4
Connecticut	1 144 476	2
Delaware	279 119	6
District of Columbia	436 310	2
Florida	4 331 535	3
Georgia	2 312 953	3
Hawaii	381 774	5
Idaho	340 632	5
Illinois	4 343 388	2
Indiana	1 623 335	5
Iowa	740 018	5
Kansas	728 611	4
Kentucky	912 952	4
Louisiana	1 188 211	6
Maine	268 834	8
Maryland	1 764 004	3
Massachusetts	2 587 409	3
Michigan	2 706 854	4
Minnesota	1 848 235	3
Mississippi	467 373	6
Missouri	1 699 838	4
Montana	182 801	8
Nebraska	510 966	5
Nevada	1 053 241	4
New Hampshire	355 722	6
New Jersey	3 055 582	3
New Mexico	496 246	6
New York	7 030 915	2
North Carolina	2 149 294	4
North Dakota	154 627	9
Ohio	2 578 846	3
Oklahoma	730 365	4
Oregon	1 120 401	4
Pennsylvania	2 984 017	3
Rhode Island	265 454	4
South Carolina	828 243	5
South Dakota	176 733	5
Tennessee	1 267 014	4
Texas	5 530 716	2
Utah	621 121	6
Vermont	130 527	6
Virginia	2 142 401	3
Washington	1 951 904	3
West Virginia	288 862	6
Wisconsin	1 514 021	4
Wyoming	200 491	6

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

238210 ELECTRICAL CONTRACTORS

This U.S. industry comprises establishments primarily engaged in installing and servicing electrical wiring and equipment. Electrical contractors included in this industry may include both the parts and labor when performing work. Electrical contractors may perform new work, additions, alterations, maintenance, and repairs.

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 23333200 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 23599000	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

