

**Department of Commerce  
United States Census Bureau  
OMB Information Collection Request  
Annual Capital Expenditures Survey (ACES)  
OMB Control Number: 0607-0782**

A. Justification

1. Necessity of the Information Collection

A major concern of economic policymakers is the adequacy of investment in plant and equipment. Data on the amount of business expenditures for new plants and equipment and measures of the stock of existing facilities are critical to evaluating productivity growth, the ability of U.S. business to compete with foreign business, changes in industrial capacity, and overall economic performance. The ACES is the sole source of detailed comprehensive statistics on investment in buildings and other structures, machinery, and equipment by private nonfarm businesses in the United States.

Data users need comprehensive and consistent data on investment by all private nonfarm businesses, by industry, by kind of investment, *i.e.*, whether in new or used structures or equipment. The objectives of the ACES are:

- (a) to provide estimates of capital expenditures for all private nonfarm sectors of the economy by 3-digit and selected 4-digit North American Industry Classification System (NAICS) levels;
- (b) to base the survey on a probability sample that yields measures of the statistical reliability of the survey estimates;
- (c) to provide a base survey to benchmark more frequent surveys on capital expenditures that do not have complete industry coverage;
- (d) to produce annual enterprise-level data with the level of detail, coverage, and quality which previously was only available as part of the quinquennial economic census;
- (e) to provide detail on capital expenditures for estimating the national income and product accounts, estimating the productivity of U.S. industries, evaluating fiscal and monetary policy, and conducting research using capital expenditures data; and
- (f) to provide industry analysts with capital expenditures data for market

analysis, economic forecasting, identifying business opportunities, product development, and business planning.

The Census Bureau conducts this survey under the authority of Title 13 of the United States Code, Sections 131 and 182. Sections 224 and 225 of Title 13 make this survey mandatory (see Attachment A).

This request is for a revision to the currently approved collection and will cover the 2020 through 2022 ACES (conducted in years 2021 through 2023).

Changes from the previous ACES authorization are the collection of content related to the Coronavirus Pandemic, the presence of robotic equipment and investment in robotic equipment by industry segment from employer businesses, and the amount of time it took to complete the nonemployer survey (see Attachment B). The detailed capital expenditures data, collected every five years, were collected in the 2017 ACES and will be collected again in the 2022 ACES.

The Census Bureau will continue collecting data from employer and nonemployer companies solely through electronic reporting. All companies will receive a notification letter (see Attachment C) containing an Authorization Code and will be directed to report online through the Census Bureau's Ecorr system. The online instrument provides respondents the ability to preview and print questions from the ACES worksheet and/or print a record of their response once they have completed the survey (see Attachment D).

The Census Bureau will continue to ask both employer and nonemployer companies to respond to the survey within 30 days. Reminder letters (see Attachment C), telephone calls and email reminders will continue to be directed to all companies that have not responded by the designated time.

In addition to capital expenditures, all employer businesses will be asked to provide sales and receipts information to calculate industry investment to sales ratios and to assist in verifying that consolidated company data are being reported. Asset and depreciation information, also collected, assists in measuring changes in the nation's capital stock estimates.

The capital expenditures data collected annually from a sample of nonemployer businesses are intended to better represent the total capital expenditures activity of all firms.

The Census Bureau will collect and publish ACES data based on the 2017 NAICS. Industries in the survey will comprise 3-digit and 4-digit 2017 NAICS codes.

2. Needs and Uses

The objective of adding questions related to the Coronavirus Pandemic is to measure the impact of the Coronavirus Pandemic on businesses and to meet the needs of the data user community. As we continue in these unprecedented times, the Coronavirus Pandemic content may shift, change or evolve and require further modifications on ACES.

ACES is an integral part of the Federal Government's effort to improve the quality and usefulness of National economic statistics. Federal agencies, including the Census Bureau, use these data to improve and supplement ongoing statistical programs.

The Census Bureau uses the ACES data to improve the quality of monthly economic indicators of investment. The Census Bureau's Value of New Construction Put in Place survey currently uses the ACES data to benchmark its industrial buildings data.

The Bureau of Economic Analysis (BEA) uses the ACES annual capital expenditures data for equipment and computer software to prepare estimates of private fixed investment, a major component of gross domestic product (GDP). BEA also uses these data to prepare estimates of investment by industry in the fixed assets accounts (FAAs). Investment in structures from the ACES are used by BEA to prepare the gross domestic output of the construction industries in GDP by industry. Data collected by ACES every five years on industry capital expenditures by type of structure and type of equipment are critical inputs for preparing benchmarked estimates of private fixed investment in the national income and product accounts (NIPA), the input-output accounts, and the FAAs.

The Federal Reserve Board (FRB) uses the ACES data to improve estimates of investment indicators for monetary policy. The Bureau of Labor Statistics (BLS) uses the ACES data to improve estimates of capital stocks for productivity analysis and the detailed types of structures and types of equipment data collected every five years to improve estimates of manufacturing multifactor productivity measures.

The Centers for Medicare and Medicaid Services (CMS) use the data to produce annual estimates of investment in private structures and private equipment put in place by the healthcare sector. The Department of the Treasury uses the data in analysis of depreciation. In addition, the ACES data provide industry analysts with capital expenditures data for market analysts, economic forecasting, identifying business opportunities, product development, and business planning. The capital expenditures by type of structure and type of equipment are critical to ensuring the appropriateness of capital expenditures statistics in years detailed data by types of structures and types of equipment are not collected.

There are currently few official measures of technology adoption and use by U.S.

businesses that support analysis of the scale and direction of the impact of technology on businesses and the workforce. The Census Bureau has introduced measures of technology adoption and use across several surveys, including adding questions on robotics to the ACES. Areas of research using this data may include the types of firms that use robotics, characteristics of particular industries that may be more (or less) likely to invest in robotic equipment, how the adoption of this equipment complements or substitutes for labor, and the how these data affect productivity measures.

Robotic equipment expenditures were first collected from employer businesses on the 2018 ACES. Expenditures for both industrial and service robotics were collected at the company level and assigned to the company's primary business industry. Beginning with the 2020 ACES, the U.S. Census Bureau plans to collect the presence of robotic equipment and investment in robotic equipment by industry segment. This will improve the data quality by providing researchers and other data users better information about which industries are using technology. This will enable researchers and other data users to better use this survey as a vehicle for continual monitoring of technology and the workforce.

Information quality is an integral part of the pre-dissemination review of information disseminated by the Census Bureau (fully described in the Census Bureau's Information Quality Guidelines). Information quality is also integral to the information collections conducted by the Census Bureau and is incorporated into the clearance process required by the Paperwork Reduction Act (PRA).

The objective of adding a question to the 2020 ACES to collect the amount of time taken to complete the nonemployer survey will enable the U.S. Census Bureau to determine whether our burden hour estimate is accurate.

3. Use of Information Technology

Beginning with the 2006 ACES, electronic reporting was offered to all respondents using an encrypted Internet data collection system as a substitute for the paper form mailed to all companies. For the 2020 – 2022 ACES, the Census Bureau will continue collecting data from employer and nonemployer companies solely through electronic reporting.

4. Efforts to Identify Duplication

The ACES is the only survey that provides annual capital investment data on a consistent basis for all private nonfarm businesses in the United States, by the investing industries, and by new and used structures and equipment. During 1995 and 1996, the Census Bureau assembled a team of its survey managers to review several of its programs that collect investment data and proposed to eliminate all but essential duplication of capital expenditures data on its surveys. This effort

revealed that although the collection of selected components of investment data occurred on various Census Bureau surveys, none of these surveys aimed at creating combined comprehensive investment statistics. Most of the programs reviewed serve multiple purposes of which investment data are only a part. The surveys are also conducted at different frequencies; the reporting units vary from enterprise to establishment; and the amount of detail is limited.

In the Annual Survey of Manufactures (ASM), for example, aggregated annual capital expenditures data are available on an establishment basis for manufacturing industries. However, the survey excludes all but essential control totals at the 6-digit NAICS level.

There are no capital expenditures questions on the annual surveys covering the wholesale, retail, and services sectors, which are generally conducted at the business segment level. To add such questions to all these surveys would be extremely burdensome to respondents. Also, large companies often make decisions about investment at the corporate level.

The Economic Census, conducted every 5 years, also does not collect detailed data on capital expenditures for manufacturing and mineral industries. Only essential control totals for the 6-digit NAICS level are retained.

No capital expenditures questions are included in the economic census covering the wholesale, retail, and services sectors, with the exception of the information sector. Selected industries in the information sector collect data on capital expenditures for new construction, including renovation because these data are considered essential to that program.

To identify other available sources of data, we have also reviewed requirements for reporting to the Securities and Exchange Commission and regulatory requirements for utilities companies. While these sources require data on capital expenditures, they do not provide comprehensive and consistent data, nor are the data presented in the detail provided by the ACES.

Beginning with the 2020 ACES, the Census Bureau will collect expenditures for both industrial and service robotics from companies with employees at the industry level across 19 NAICS sectors. The 2020 ASM is specifically measuring investment in industrial robotics. The Annual Business Survey (ABS) collects the use and production of robotics but not investment in this technology on a regular basis, not every year.

## 5. Minimizing Burden

To minimize reporting burden on small businesses, we limit the sample size to the smallest size necessary to provide statistically reliable estimates. We also select a new sample each year to reduce the likelihood of a business being asked to respond to the survey more than once in a 5-year period. Our sampling methodology minimizes the probability of selection for any individual small or mid-sized business. (See Sections B.1 and B.2.a. for additional detail). Further, we only ask detailed capital expenditures by type of structure and type of equipment once every five years.

6. Consequences of Less Frequent Collection

ACES data are collected annually. Collecting the data less frequently would seriously impair their usefulness as a trend estimator of investment and as a benchmark for the national income and product accounts and estimates of capital stocks. Data on investment by types of structures and types of equipment are collected once in a 5-year period, with the next collection planned for the 2022 survey.

7. Special Circumstances

There are no special circumstances.

8. Consultations Outside the Agency

During development of the ACES, the Census Bureau conducted extensive pre-testing, a response analysis survey, and a comprehensive program evaluation. In addition, we consulted with data users and respondents. Based on these consultations, we modified the survey's information collection instruments and abandoned our plan for the annual collection of detailed data on types of structures and types of equipment.

We hold periodic discussions about the content and nature of the ACES with data users at the BEA, FRB, BLS, and the Department of the Treasury. Based on these discussions, in particular with the BEA, we issued the "Technical Note on New Capital Expenditures Survey" to accompany the 1993 survey publication. Since the issuance of the technical note, we continually review data discrepancies between the BEA's estimate of nonresidential fixed investment and the Census Bureau's estimate of new structures and new equipment from the ACES. When appropriate, we modify the ACES collection instruments to minimize these discrepancies.

The Census Bureau consults periodically with the following data users:

Bureau of Economic Analysis

Dennis Fixler (301) 278-9607  
Chief Economist

Erich H. Strassner (301) 278-9612  
Associate Director for National Economic Accounts

David Wasshausen (301) 278-9752

Chief, National Income & Wealth Division

Robert Kornfeld (301) 278-9285  
Deputy Chief, National Income and Wealth Division

Federal Reserve Board

Norman Morin (202) 452-2476  
Assistant Director and Chief, Industrial Output Section  
Division of Research and Statistics

Bureau of Labor Statistics

Lucy P. Eldridge (202) 691-6598  
Associate Commissioner for Productivity and Technology

Centers for Medicare and Medicaid Services

Stephen Heffler (410) 786-1211  
Director, National Health Statistics Group  
Office of the Actuary

Aaron Catlin (410) 786-3138  
Associate Director, National Health Statistics Group  
Office of the Actuary

Information from any outside individuals or entities was received on an informal basis and was not designed to provide a group consensus.

In July 2020, we informed data users at the BEA, FRB, and BLS about our intentions to collect the questions related to the Coronavirus Pandemic and collection of expenditures for robotic equipment at the NAICS industry level on the 2020 ACES. All expressed interest in our collection of the data and their intended uses of the estimates.

The 2020 ACES presubmission notice was published in the Federal Register on September 10, 2020 (Volume 85, Number 176) Page 55821, inviting public comments on our plans to submit this request. The presubmission notice closed November 9, 2020. We received comments from the BEA, BLS, and CMS (see Attachment E) supporting the continued collection of the ACES.

9. Paying Respondents

We do not pay respondents or provide them gifts.

10. Assurance of Confidentiality

The letter sent to respondents directing them to report online will provide the following assurance of confidentiality:

YOUR RESPONSE IS REQUIRED BY LAW. Title 13, United States Code, Sections 131 and 182, authorize this collection. Sections 224 and 225 require your response. The U.S. Census Bureau is required by Section 9 of the same law to keep your information confidential and can use your responses only to produce statistics. The Census Bureau is not permitted to publicly release your responses in a way that could identify your business, organization, or institution. Per the Federal Cybersecurity Enhancement Act of 2015, your data are protected from cybersecurity risks through screening of the systems that transmit your data.

Similar guarantees will be included in the electronic reporting instruments.

11. Justification for Sensitive Questions

There are no sensitive questions.

12. Estimate of Hour Burden

The estimate of total respondent burden hours for FY2021 for the 2020 ACES (conducted in calendar year 2021) is 164,280 hours. The estimate was derived as follows:

**Survey forms**

**Hours per  
response    Burden  
                  hours**



<b>FY 2021</b>	27,403 Form ACE-1(S)	2.26 <sup>1</sup>	61,931 <sup>1</sup>
	22,177 Form ACE-1(M)	3.31 <sup>1</sup>	73,406
	547 Form ACE-1(L)	16.35 <sup>1</sup>	8,943
	20,000 Form ACE-2	1.0	20,000
Fiscal year total:			164,280 hrs.

The difference in hours per response is due to the expected number of industry categories reported by companies. Highly diversified companies will report a greater number of industries.

Due to the discontinued collection of questions related to the coronavirus pandemic, the FY22 estimate of total respondent burden hours for the 2021 ACES (conducted in calendar year 2022) is 161,552. The estimate was derived as follows:

	Survey forms	Hours per response	Burden hours
<b>FY 2022</b>	27,403 Form ACE-1(S)	2.21 <sup>1</sup>	60,561
	22,177 Form ACE-1(M)	3.25 <sup>1</sup>	72,075
	547 Form ACE-1(L)	16.30 <sup>1</sup>	8,916
	20,000 Form ACE-2	1.0	20,000
Fiscal year total:			161,552 hrs.

Due to the addition of structure and equipment detail by type collected from employer companies for the 2022 ACES (conducted in calendar year 2023), the estimate of total respondent burden hours for fiscal year 2023 is 240,530. The estimate was derived as follows:

	Survey forms	Hours per response	Burden hours
<b>FY 2023</b>	27,403 Form ACE-1(S)	3.21 <sup>1</sup>	87,964
	22,177 Form ACE-1(M)	5.25 <sup>1</sup>	116,429
	547 Form ACE-1(L)	29.50 <sup>1</sup>	16,137

	20,000 Form ACE-2	1.0	20,000
Fiscal year total:			240,530 hrs.

These burden hour estimates are based on estimates of the average time required to complete the survey as reported in the response analysis survey conducted during the pre-testing of the ACES, on conversations and correspondence with respondents, and on estimates of time required to complete similar surveys conducted by the Census Bureau. We adjust our estimates to account for the modification of data items collected.

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The difference in hours per response is due to the expected number of industry categories reported by companies. Highly diversified companies will report a greater number of industries.

Approximately 50,102 employer companies will receive a letter directing them to complete an electronic version of the Form ACE-1 that is tailored to the company's diversity of operations and number of industries with payroll. About 557 of the companies that will be asked to complete the electronic version of the Form ACE-1(L) are highly diversified. We expect them to report expenditures for 9 or more industry categories. Approximately 22,177 companies that will be asked to complete the electronic version of the Form ACE-1(M) are engaged in fewer industries. We expect these companies to report expenditures for 1 to 8 industry categories. The remaining 27,403 companies that will be asked to complete the electronic version of the Form ACE-1(S) generally will be active in one industry. The overall increase in burden hours for the 50,102 employer companies for the 2020 ACES (conducted in calendar year 2021) is based on the respondent's ability to provide the information related to the coronavirus pandemic, to retrieve the expenditures for robotic equipment at the industry level from their records, and to identify any other industries that the company uses robotic equipment. A total of about 20,000 nonemployer companies will be asked to complete the online version of the Form ACE-2. No industry level data are requested from these companies. Information related to the coronavirus pandemic will not be collected from these companies.

The decrease in burden hours for the 2022 fiscal year is based on the discontinued collection of information related to the coronavirus pandemic for the 2021 ACES (conducted in calendar year 2022).

The increase in burden hours for the 2023 fiscal year is based on the addition of structure and equipment detail by type collected from employer companies for the 2022 ACES (conducted in calendar year 2023).

The total cost to all respondents is estimated to be \$5.5 million annually for fiscal year 2021 based on the median hourly wage of \$33.40 for accountants and auditors

obtained from the Occupational Employment Statistics from the Bureau of Labor Statistics multiplied by the annual burden hours (164,280).

The total cost to all respondents is estimated to be \$5.4 million for fiscal year 2022 based on the median hourly wage of \$33.40 for accountants and auditors multiplied by the annual burden hours (161,552). The median hourly wage estimate was obtained from the latest Occupational Employment Statistics disseminated by the Bureau of Labor Statistics.

The total cost to all respondents is estimated to be \$8.0 million annually for fiscal year 2023 based on the median hourly wage of \$33.40 for accountants and auditors obtained from the Occupational Employment Statistics from the Bureau of Labor Statistics multiplied by the average burden hours (240,530).

The total annual reporting hours we are requesting for this collection is 188,787 hours. This is an average of the burden imposed by this collection over the next 3 years.

13. Estimate of Cost Burden

We do not expect respondents to incur any costs other than that of their time to respond. The information requested is of the type and scope normally carried in company records and no special hardware or accounting software or system is necessary to provide answers to this information collection. Therefore, respondents are not expected to incur any capital and start-up costs or system maintenance costs in responding. Further, purchasing of outside accounting or information collection services, if performed by the respondent, is part of usual and customary business practices and not specifically required for this information collection.

14. Cost to Federal Government

We estimate the total cost to the government of the survey to be \$5.2 million per fiscal year 2021 - 2023 all borne by the Census Bureau. The activities covered by the cost include data collection, processing, review of reported data, publication, equipment, overhead, and support staff. The Census Bureau has allocated resources for the effective and efficient management of this information collection. An all-electronic data collection eliminates the cost of printing forms and instruction manuals, reduces cost of postage, and eliminates the cost of keying data from a paper collection instrument.

15. Reason for Change in Burden

We estimate approximately 29,653 more burden hours will be needed. The increase is primarily due to collecting detailed capital expenditures by type of structure and type

of equipment during this information collection request for the 2022 ACES.

The collection of information related to the coronavirus pandemic, capital expenditures for robotic equipment by industry and presence of robotic equipment by industry beginning with the 2020 survey will result in a slight increase in burden hours compared to the previous years. These burden hour estimates are based on estimates of the average time required to complete the survey as reported in the response analysis survey conducted during the pre-testing of the ACES, on conversations and correspondence with respondents, and on estimates of time required to complete similar surveys conducted by the Census Bureau. We adjust our estimates to account for the modification of data items collected.

#### 16. Project Schedule

The survey to collect 2020 data will begin in March 2021. Data collection for 2020 will occur from March 2021 through October 2021. Data will be processed using Census Bureau computer equipment. Census Bureau analysts will review the response data and the tabulated data for reasonableness. We estimate that the review process will continue through November 2021. The data will be released in December 2021. We will follow a similar schedule for the 2021 and 2022 ACES.

#### 17. Request to Not Display Expiration Date

The assigned expiration date will be displayed in the electronic reporting system.

#### 18. Exceptions to the Certification

There are no exceptions to the certification.

#### 19. NAICS Codes Affected

The survey covers all private nonfarm businesses within the following NAICS sectors:

<u>Title</u>	<u>NAICS Sectors</u>
Forestry, Logging, Fishing, Hunting, Trapping, and Agricultural Support Activities	113-115
Mining, Quarrying, and Oil and Gas Extraction	21
Utilities	22
Construction	23
Manufacturing	31-33
Wholesale Trade	42
Retail Trade	44-45

Transportation and Warehousing (except Postal Service)	48, 492,493
Information	51
Finance and Insurance	52
Real Estate and Rental and Leasing	53
Professional, Scientific, and Technical Services	54
Management of Companies and Enterprises	55
Administrative and Support and Waste Management and Remediation Services	56
Educational Services	61
Health Care and Social Assistance	62
Arts, Entertainment, and Recreation	71
Accommodation and Food Services	72
Other Services (except Private Households and Public Administration)	811-813

Employer companies are asked to report information for industry categories at the 3-digit and selected 4-digit NAICS levels. The industry categories for each company are provided in the electronic data collection instrument. We ask each company to review the industries and correct them, if necessary, using the list of industry categories that appear in the online reporting system or the instruction manual.