

Table IV-3 Factors affecting occupational utilization, 2006-16

Matrix code	Matrix occupation title	Factors affecting occupational utilization
11-1011	Chief executives	Small decreases are expected in all industries because as the size of firms grows chief executives will oversee larger staffs.
11-1021	General and operations managers	A small decrease is expected for all industries except the Federal Government. Employment of general and operations managers is expected to grow more slowly than their staffs as firms assign these managers greater responsibility in an effort to cut costs.
11-1031	Legislators	As the number of legislators remains generally fixed while employment in other parts of government grows, small decreases are expected in local governments.
11-2011	Advertising and promotions managers	Small decreases in all industries except advertising and related services are expected due to outsourcing of services.
11-2031	Public relations managers	Small increases in advertising and related services are expected as contracting to public relations services grows.
11-3061	Purchasing managers	Small decreases are expected in the Federal Government, except the post office, and in local governments as purchasing work is increasingly contracted out to private firms. Small decreases are expected in manufacturing of motor vehicle parts and in wholesaling of professional and commercial equipment supplies as purchasing work is offshored and consolidated.
11-9011	Farm, ranch, and other agricultural managers	A moderate increase in crop production is expected due to consolidation of farms and the increased demand for corn for ethanol.
11-9021	Construction managers	A moderate increase is expected in nonresidential building construction. As large-scale commercial construction projects become more complex and sophisticated a greater number of specialized managers will be required to handle the many specific tasks at hand, such as worker safety, financial and cost management, quality assurance, zoning laws and regulations, litigation, environmental protection, and handling of contractors.
11-9041	Engineering managers	Small increases are expected in semiconductor and other electronic component manufacturing and aerospace product and parts manufacturing due to the increasing employment of engineers in those industries.
11-9051	Food service managers	A small decrease in limited-service eating places is expected as the number of limited-service chains expands and food service management becomes more regionally controlled. A small decrease in special food services is expected due to consolidation. A small decrease in hotels is expected due to an increase in limited-service hotels.
11-9081	Lodging managers	A small increase in hotels is expected due to an increase in limited-service hotels with smaller staffs.
11-9121	Natural sciences managers	Small increases are expected in research and development in the physical, engineering, and life sciences due to the relatively faster growth of scientists in this industry relative to engineers, especially related to biological science.
11-9141	Property, real estate, and community association managers	Small increases are expected in activities related to real estate and lessors of real estate as professional third-party management becomes more prevalent.
13-1022	Wholesale and retail buyers, except farm products	Small decreases are expected across all industries because of mergers and consolidation within the retail industry.
13-1023	Purchasing agents, except wholesale, retail, and farm products	Small decreases expected in government at all levels as this work is outsourced to private firms. In the private sector, small decreases are expected in many industries because of offshoring and consolidation.
13-1031	Claims adjusters, examiners, and investigators	A small increase in other insurance-related activities is expected as more insurance carrying members of the public are seeking their own estimations from public adjusters due to the increasing problem with insurance fraud.
13-1032	Insurance appraisers, auto damage	A small increase in direct insurance (except life, health, and medical) carriers is expected as more auto policies and drivers on the roads lead to more claims being filed. A small decrease is expected in other insurance related activities as more appraisers become more likely to work for insurance carriers.
13-1051	Cost estimators	Small increases are expected all industries as the project-cost process continues to become increasingly complex.
13-1071	Employment, recruitment, and placement specialists	A small decrease is expected in employment services as recruiting agencies increasingly adopt computerized human resource information systems that make workers more productive.
13-1072	Compensation, benefits, and job analysis specialists	A small increase is expected in many industries as firms are forced to analyze and alter benefits in response to their growing costs.
13-1079	Human resources, training, and labor relations specialists, all other	A small increase is expected for almost all industries as employers increasingly seek the services of these workers to find, retain, and train both new and existing employees as well as to handle labor relations.
13-1081	Logisticians	Small increases across all industries are expected due to the increasingly widespread use of logisticians to increase workplace efficiencies.

Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
13-1199	Business operation specialists, all other	Small increases are expected in all industries as organizations strive to become more efficient and streamline their operations.
13-2011	Accountants and auditors	Small increases in accounting, tax preparation, bookkeeping, and payroll services; management of companies and enterprises; management, scientific, and technical consulting services; and office administrative services are expected due to the Sarbanes-Oxley Act of 2002 that requires more financial disclosure through formal independent reporting of company statistics. Accountants will be the ones completing these reports. Small increases in State and local governments and other financial investment activities are expected due to more accounting and auditing that arises from an increasing population and the elderly population. A small decrease in the Federal government is expected due to increased outsourcing. A small increase in computer systems design and related services is expected as more accountants and auditors play a larger role in developing business information systems.
13-2041	Credit analysts	Small decreases across all industries are expected due to increased automation.
13-2051	Financial analysts	A small increase in the other financial activities industry and a moderate increase in the securities and commodities contracts intermediation and brokerage industry are expected as financial markets grow more complex.
13-2052	Personal financial advisors	Moderate increases are expected in the other financial activities industry; securities and commodities contracts intermediation and brokerage industry; depository credit intermediation industry; and other investment pools and funds industry as a result of the growing demand for financial services and financial planning because of the shift from defined benefit retirement plans to defined contribution plans.
13-2061	Financial examiners	A moderate increase is expected in monetary authorities-central bank as the Federal Reserve continues to increase regulation.
13-2071	Loan counselors	A small decrease is expected in all industries as increased automation of the loan process and customer self-service will lessen demand for loan counselors.
13-2072	Loan officers	A small decrease is expected in activities related to credit intermediation; credit card issuing and sales financing; and other nondepository credit intermediation, including real estate credit and consumer lending. The increased use of credit scoring and online loan applications will limit growth for this occupation relative to others within these industries. A small increase should occur in depository credit intermediation as many banks are expanding their networks of local branches.
13-2082	Tax preparers	A moderate decrease is expected to occur in accounting, tax preparation, bookkeeping, and payroll services due to the use of tax preparation software.
15-1021	Computer programmers	Moderate decreases in all industries are expected due to improved productivity caused by technology and the offshore outsourcing of some programming work.
15-1031	Computer software engineers, applications	Moderate increases across all industries are expected due to growing demand for software.
15-1032	Computer software engineers, systems software	Small increases across all industries are expected to meet the growing demand for system software.
15-1041	Computer support specialists	Small decreases are expected in computer systems design and related services, professional and commercial equipment and supplies merchant wholesalers, and software publishers due to increased off-shoring. A small increase is expected in computer and software stores to meet small business demand for added services.
15-1051	Computer systems analysts	Small increases are expected in all industries due to increased demand for the efficient application of existing and new technologies.
15-1061	Database administrators	Small increases are expected in all industries as databases are becoming more complex, requiring more database administrators to manage and improve them.
15-1071	Network and computer systems administrators	Small increases are expected across all industries as organizations develop and expand network, Internet, and intranet systems.
15-1081	Network systems and data communications analysts	Large increases are expected all industries because of the continued expansion of wireless networks, firms' growing reliance on Web sites, and a greater emphasis on the security and protection of digital information.
15-2011	Actuaries	A moderate increase in management of companies and enterprises is expected due to the increasing practice of conducting investment risk analyses.
17-2011	Aerospace engineers	Small increases across all industries are expected due to an increased emphasis on defense and the development of new aircraft designs.
17-2031	Biomedical engineers	Small increases across all industries are expected as biotechnology shifts from research to production.
17-2041	Chemical engineers	Small increases across all industries are expected due to increasing work in nanotechnology and biotechnology.
17-2071	Electrical engineers	A small increase is expected in electric power generation, transmission and distribution as grid expansion and maintenance become more important.
17-2081	Environmental engineers	Small increases in engineering, surveying, mapping, building inspection, and drafting services and remediation and other waste management services are expected due to increasing demands for environmental impact studies and remediation services.

Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
17-2112	Industrial engineers	Moderate increases across all industries are expected as competition in manufacturing industries will drive increasing demand for industrial engineers to optimize production.
17-2121	Marine engineers and naval architects	Small decreases in engineering, surveying, mapping, building inspection, and drafting services are expected because employment of marine engineers and naval architects is concentrated in the portion of the industry supplying marine design services, which is not expected to grow as fast as the rest of the industry.
17-2131	Materials engineers	Small increases across all industries are expected because the increasingly complex nature of materials will increase the need for these workers.
17-2151	Mining and geological engineers, including mining safety engineers	A small increase in oil and gas extraction is expected due to the increasing proportion of mining engineers involved in locating and extracting oil and gas. A small decrease in engineering, surveying, mapping, building inspection, and drafting services is expected as the mining and geological segment of this industry is expected to grow more slowly than the industry as a whole.
17-2161	Nuclear engineers	A small increase is expected in electric power generation, transmission, and distribution in preparation for the possible construction of new nuclear power plants.
17-2171	Petroleum engineers	A small increase in oil and gas extraction is expected due to increased investment in locating and extracting oil and gas reserves.
17-3011	Architectural and civil drafters	A small decrease is expected across all industries as improved CADD and modeling software will lessen the need for drafters.
17-3012	Electrical and electronics drafters	A small decrease is expected in engineering, surveying, mapping, building inspection, and drafting services as improved CADD software will likely make these workers more productive and lessen the need for these workers as compared to other occupations in the industry.
17-3013	Mechanical drafters	A small decrease is expected in engineering, surveying, mapping, building inspection, and drafting services as improved CADD software will likely make these workers more productive and lessen the need for these workers as compared to other occupations in the industry.
17-3019	Drafters, all other	A small decrease is expected in engineering, surveying, mapping, building inspection, and drafting services as improved CADD software will likely make these workers more productive and lessen the need for these workers as compared to other occupations in the industry.
17-3022	Civil engineering technicians	A small decrease in engineering, surveying, mapping, building inspection, and drafting services is expected due to productivity increases.
17-3025	Environmental engineering technicians	Small increases in remediation and other waste management services are expected due to the higher growth in the remediation portion of this industry where this occupation is concentrated.
17-3026	Industrial engineering technicians	Small increases across all industries are expected as this occupation is utilized to optimize production processes.
19-1012	Food scientists and technologists	Small increases across all industries are expected due to increased demand for food products and enhanced food safety procedures.
19-1021	Biochemists and biophysicists	A small increase in research and development in the physical, engineering, and life sciences is expected due to the increasing use of R & D services.
19-1022	Microbiologists	A small increase in research and development in the physical, engineering, and life sciences is expected due to increases in contracting out work to this industry.
19-1023	Zoologists and wildlife biologists	A small increase in research and development in the physical, engineering, and life sciences is expected due to increases in contracting out work to this industry.
19-1029	Biological scientists, all other	A small increase in research and development in the physical, engineering, and life sciences is expected due to increases in contracting out work to this industry.
19-1031	Conservation scientists	A moderate increase in the Federal government, excluding postal service, should occur because the Federal government is increasingly replacing foresters with conservation scientists.
19-1032	Foresters	A small increase in State government, excluding education and hospitals, should occur as more foresters in this industry are providing consulting services to private land-owners, the number of whom are increasing due to a large number of land sell-offs from timber companies.
19-1041	Epidemiologists	Small increases in State government, excluding education and hospitals and local government, excluding education and hospitals, due to growing public health concerns are expected.
19-1042	Medical scientists, except epidemiologists	Small increases in colleges, universities, and professional schools, public and private and research and development in the physical, engineering, and life sciences are expected due to increases in grant funding and in research and development services.
19-1099	All other life scientists	A small increase in research and development in the physical, engineering, and life sciences is expected due to the rapid growth in biological research.
19-2031	Chemists	An expected small decrease in pharmaceutical and medicine manufacturing and a small increase in research and development in the physical, engineering, and life sciences and testing laboratories is due to the expected contracting out of services.
19-2032	Materials scientists	Small increases in research and development in the physical, engineering, and life sciences are expected due contracting out research related to nanotechnology.

Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
19-2041	Environmental scientists and specialists, including health	A small increase in engineering, surveying, mapping, building inspection, and drafting services is expected due to increases in the contracting out of services.
19-2042	Geoscientists, except hydrologists and geographers	A small increase in oil and gas extraction is expected due to the increased efforts to locate reserves in smaller or more isolated areas.
19-2043	Hydrologists	A small increase in engineering, surveying, mapping, building inspection, and drafting services is expected due to increased concerns over water supply.
19-3011	Economists	A moderate decrease in management, scientific, and technical consulting services is expected because firms are looking for more specialized consultants, such as financial analysts, rather than economists.
19-3021	Market research analysts	Small increases in management, scientific, and technical consulting services and marketing research, public opinion polling, and all other professional, scientific, and technical services industries is expected. As companies look to decrease costs, much market research will be outsourced to consulting firms, increasing the share of market research analysts in those firms.
19-3031	Clinical, counseling, and school psychologists	A small increase in outpatient mental health and substance abuse centers is expected as the use of psychologists to help prevent and treat addictions becomes accepted.
19-4021	Biological technicians	Small increases are expected in research and development in the physical, engineering, and life sciences and testing laboratories due to increased contracting out of R&D and testing services and in colleges, universities, and professional schools, public and private, to support increasing research emphasis.
19-4031	Chemical technicians	Small increases in testing laboratories are expected due to increased contracting out.
19-4041	Geological and petroleum technicians	Small increases in oil and gas extraction are expected due to the increased efforts to locate reserves in smaller or more isolated areas.
19-4051	Nuclear technicians	Small increases in electric power generation, transmission, and distribution are expected due to increasing interest in servicing aging plants and in planning new plants.
19-4091	Environmental science and protection technicians, including health	Small increases are expected in engineering, surveying, mapping, building inspection, and drafting services due to increased interest in environmental impact studies and site remediation.
19-4092	Forensic science technicians	Moderate increases across all industries are expected due to increasing utilization of forensic techniques among law enforcement agencies.
21-1011	Substance abuse and behavioral disorder counselors	A large increase in outpatient mental health and substance abuse centers, and small increases in residential mental health and substance abuse facilities and in psychiatric and substance abuse hospitals, public and private are expected as substance abuse treatment increasingly becomes favored over prison time and becomes socially more acceptable.
21-1012	Educational, vocational, and school counselors	A moderate increase in junior colleges, public and private, is expected as greater emphasis is placed on student counseling.
21-1014	Mental health counselors	Small increases are expected in outpatient mental health and substance abuse centers and in residential mental health and substance abuse facilities due to the increasing preference and use of counselors over the more expensive services of psychologists and psychiatrists.
21-1022	Medical and public health social workers	A moderate increase in home health care services is expected as people choose to live in their homes longer. A small increase in nursing care facilities is expected as people with debilitating illnesses live longer. A small decrease in general medical and surgical hospitals, public and private, is expected as work shifts to those in other more affordable occupations.
21-1023	Mental health and substance abuse social workers	Large increases in residential mental health and substance abuse facilities and small increases in outpatient mental health and substance abuse centers are expected as mental health and substance abuse social workers become a lower-cost alternative to treatment by psychologists and psychiatrists.
21-1091	Health educators	Moderate increases in child, youth, and all other individual and family services; outpatient care centers, except mental health and substance abuse; grantmaking and giving services; and social advocacy organizations are expected due to increasing public awareness efforts and attempts to promote health research or social policy advocacy.
21-1092	Probation officers and correctional treatment specialists	A small increase is expected in State governments, excluding education and hospitals, driven by the need to supervise the large number of people who will be released from prison over the next decade and those who are sentenced to probation rather than prison.
21-1093	Social and human service assistants	Small to large increases are expected in industries providing direct services to youth, elderly, or residential facility clients due to cost containment efforts. A small decrease in State government is expected due to contracting out. Small decreases in child day care services and administrative service agencies are expected due to preferences for more highly skilled and educated social workers.

Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
21-1099	Community and social service specialists, all other	Moderate increases are expected in child, youth, and all other individual and family services; social advocacy organizations; and community food and housing, and emergency and other relief services due to a preference for these workers in place of more educated social workers.
23-1011	Lawyers	Moderate increases are expected in State and local government as more staff attorneys are needed to handle the rising number of caseloads and to deal with a growing number of regulatory issues.
23-2011	Paralegals and legal assistants	Small increases in all industries are expected as firms substitute relatively lower cost paralegals for lawyers and law clerks.
23-2091	Court reporters	A small increase is expected in collection agencies and all other business support services as this industry will employ more court reporters to record and secure records of pretrial depositions, arbitrations, board of director meetings, stockholder meetings, and convention business sessions.
23-2092	Law clerks	Small decreases are expected in all industries as firms replace law clerks with paralegals in an effort to contain the costs of delivering legal services.
23-2093	Title examiners, abstractors, and searchers	Small decreases are expected in all industries because of increased productivity caused by electronic databases. Additionally, tasks once handled by title examiners are now handled by paralegals.
25-1000	Postsecondary teachers	Small increases across all industries are expected as faculty will grow faster than support occupations due to use of part-time faculty; also, growth in programs catering to working adults require fewer support workers.
25-2011	Preschool teachers, except special education	Small increases in elementary and secondary schools, public and private, are expected as States run more preschool programs out of existing school buildings.
25-2012	Kindergarten teachers, except special education	Small increases in elementary and secondary schools, public and private, are expected as States transition to full day kindergarten and as the population of young children grows faster than that of all students combined.
25-2021	Elementary school teachers, except special education	Small increases in elementary and secondary schools, public and private, are expected as the population of elementary aged students grows faster than that of older students.
25-2023	Vocational education teachers, middle school	Small decreases in elementary and secondary schools, public and private, are expected as curricula shift focus to core skills and leave less time for vocational skills subject matter.
25-2032	Vocational education teachers, secondary school	Small decreases in elementary and secondary schools, public and private, are expected as curricula shift focus to core skills and leave less time for vocational skills subject matter.
25-2041	Special education teachers, preschool, kindergarten, and elementary school	Small increases in elementary and secondary schools, public and private, are expected due to increasing enrollment at this grade level and increased identification of students needing special education services.
25-2042	Special education teachers, middle school	Small increases in elementary and secondary schools, public and private, are expected due to increasing enrollment at this grade level and increased identification of students needing special education services.
25-4021	Librarians	Moderate decreases are expected in colleges, universities, and professional schools, public and private, and junior colleges, public and private, because increased use of electronic cataloging and the Internet will result in a declining need for librarian services compared to technician services. A small decrease in local government, excluding education and hospitals is expected as some work shifts to support staff and because of steady or declining budgets.
25-4031	Library technicians	Small decreases are expected in colleges, universities, and professional schools, public and private, and junior colleges, public and private, because decreases in library services provided by these institutions will be countered by increased ability of technicians to handle most patron requests.
25-9011	Audio-visual collections specialists	Moderate decreases across all industries are expected as the need for specialists to catalogue and operate multimedia resources decreases because more workers are expected to become familiar with it.
25-9021	Farm and home management advisors	There should be a small decrease across all industries as fewer funds are allocated for this occupation's services.
25-9031	Instructional coordinators	Moderate increases are expected in elementary and secondary schools, public and private and State and local governments, excluding education and hospitals, because the focus on accountability will necessitate continual review of curricula and teaching methods to improve educational achievement.
27-1014	Multi-media artists and animators	A small increase is expected in most industries. As computer animation becomes more advanced consumers will demand more realistic looking film and games which requires more skilled employees. A moderate increase is expected in advertising and related services as more films require more advanced special effects which will increase the need for multimedia artists and animators. A moderate increase is also expected in motion picture and video production and distribution, as many more films require more advanced special effects.
27-1022	Fashion designers	Moderate increases in apparel, piece goods, and notions merchant wholesalers and small increases in cut and sew apparel manufacturing are expected as manufacturers keep design work in house and outsource production work.



Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

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27-1024	Graphic designers	Small increases in advertising and related services and newspaper publishers are expected as Internet advertising grows. Small decreases in specialized design services are expected as improving technology enables others to do design work.
27-1025	Interior designers	A small increase in specialized design services is expected as retailers contract these firms to do their interior designs. A small decrease in furniture stores and home furnishings stores is expected as retailers contract design firms to do their interior design work.
27-2031	Dancers	A small decrease is expected in musical groups and all other performing arts companies, because of a reduction in concert dance settings. However, a small increase is expected in amusement and recreation industries because of the increased popularity of recreational dance and dance-for-fitness.
27-2032	Choreographers	Moderate decreases are expected in all industries where choreographers are employed because employment growth of choreographers should be less than employment growth of other occupations because typically there is only one per establishment.
27-2041	Music directors and composers	A small increase is expected among independent artists, writers, and performers as the increased use of the Internet has made it easier for independent music directors and composers to present their work.
27-3011	Radio and television announcers	Small decreases are expected across all industries as increased consolidation and technology have made syndication and pre-recorded shows more common, reducing the need for radio and television announcers.
27-3012	Public address system and other announcers	Small decreases are expected across all industries. Because few of these workers are needed per establishment, the employment of this occupation will grow more slowly than the employment other occupations that are found in the same industries.
27-3022	Reporters and correspondents	A small increase in newspaper publishers is expected. There is consolidation in the industry but reporters and correspondents are generally not the ones whose jobs are being cut.
27-3031	Public relations specialists	Small increases in advertising and related services are expected as outsourcing from other industries continues.
27-3041	Editors	A small decrease in periodical publishers and all other book and directory publishers, business associations, and colleges and universities due to contracting out of editorial services.
27-3091	Interpreters and translators	Small increases are expected in most industries as globalization increases demand for interpreters and translators.
27-4011	Audio and video equipment technicians	A small increase is expected across most industries (except motion picture and video production and distribution, and television broadcasting) to reflect the growing amount of audio and video equipment in use; more audio and video technicians will have to be hired to maintain the equipment.
27-4012	Broadcast technicians	A small increase is expected in the television broadcasting industry. Because of the upcoming deadline for the mandatory switch to digital broadcasting, many stations will have to hire additional broadcast technicians.
27-4013	Radio operators	A moderate decrease is expected in all industries as improvements in technology and the increased use of digital signals reduce the need for radio operators.
27-4031	Camera operators, television, video, and motion picture	A small decrease is expected in television broadcasting as many studios are switching to automated cameras under the control of a single operator.
27-4032	Film and video editors	A small decrease is expected in television broadcasting as the increased use of disc-based cameras allows more editing to be done by camera operators or reporters in the field.
29-1031	Dietitians and nutritionists	A moderate decrease in nursing care facilities should result from contracting out of dietician services and as dietetic technicians replace dietitians. Small decreases are expected in general medical and surgical hospitals, public and private and local government, excluding education and hospitals, as the result of contracting out of dietician services.
29-1041	Optometrists	There should be a small decrease in offices of physicians as more assistants are taking over the job duties of this profession.
29-1051	Pharmacists	A small increase is expected in pharmacies and drug stores and general medical and surgical hospitals as the demand for prescription drugs grows. Moderate increases are expected in electronic shopping and mail-order houses as more people buy drugs through the Internet; moderate increases also are expected in grocery stores, department stores and other general merchandise stores as these stores add more pharmacies.
29-1062	Family and general practitioners	A small decrease is expected in offices of physicians as nurses and physicians assistants take over some responsibilities of physicians
29-1063	Internists, general	A small decrease is expected in offices of physicians as nurses and physicians assistants take over some responsibilities of physicians
29-1065	Pediatricians, general	A small decrease is expected in offices of physicians as nurses and physicians assistants take over some responsibilities of physicians
29-1067	Surgeons	A small decrease is expected in offices of physicians as nurses and physicians assistants take over some responsibilities of physicians
29-1071	Physician assistants	A small increase is expected to occur in offices of physicians as physicians increasingly use physician's assistants in their offices.
29-1081	Podiatrists	A moderate decrease is expected to occur in offices of physicians and offices of all other health practitioners due to the lack of insurance coverage for podiatric medicine services.

Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
29-1111	Registered nurses	A small increase across most industries is expected because nurses provide a cost-effective alternative to physicians and other higher-wage occupations. A small decrease is expected in home health care services as advances in medical technology make it increasingly possible for lower-skilled workers, such as home health aides, to provide a lower-cost alternative for many of the duties RNs used to be responsible for.
29-1122	Occupational therapists	Small increases are expected in nursing care facilities and general medical hospitals, public and private, will result from growth in services for the elderly in these industries.
29-1123	Physical therapists	Small increases are expected in general medical and surgical hospitals and nursing care facilities due to an increase in the elderly population which will need physical therapy services.
29-1124	Radiation therapists	Small increases are expected in general medical and surgical hospitals, public and private, and offices of physicians due to increases in the number of people receiving radiation treatments.
29-1125	Recreational therapists	A small decrease is expected in all industries due to cost containment efforts.
29-1126	Respiratory therapists	As respiratory technicians become more involved in direct patient care, small increases are expected in general medical and surgical hospitals, specialty hospitals, and nursing care facilities. A moderate increase in the consumer goods and rental industry is expected because of the increases in respiratory care services related to the rental of oxygen equipment.
29-1127	Speech-language pathologists	A moderate decrease is expected in the offices of physical, occupational and speech therapists, and audiologists as the portion of the industry employing speech-language pathologists are expected to grow more slowly than other sectors of the industry.
29-1131	Veterinarians	A small increase is expected in veterinary services as pet owners increasingly view companion pets as a member of the family and are more willing to spend on advanced veterinary medical care.
29-2011	Medical and clinical laboratory technologists	As hospitals and physicians' offices continue to outsource laboratory services to medical and diagnostic laboratories, small decreases are expected in general medical and surgical hospitals and the offices of physicians, and a moderate increase is expected in medical and diagnostic laboratories. A moderate increase is also expected for all other ambulatory health care services, as blood banks constitute a growing proportion of this industry.
29-2012	Medical and clinical laboratory technicians	A small decrease is expected in offices of physicians as hospitals and physicians' offices continue to outsource laboratory services to medical and diagnostic laboratories.
29-2021	Dental hygienists	A small increase is expected in offices of dentists as dentists continue to hire more hygienists to handle routine tasks, allowing the dentist to visit more patients and handle more demanding tasks.
29-2031	Cardiovascular technologists and technicians	A small increase is expected in all industries due to the aging population and the importance of treating heart disease.
29-2032	Diagnostic medical sonographers	A small increase in offices of physicians is expected as more third-party payers encourage outpatient care.
29-2034	Radiologic technologists and technicians	A small increase in outpatient care facilities is expected as more third-party payers encourage the use of outpatient care facilities.
29-2052	Pharmacy technicians	A moderate increase is expected in pharmacies and drug stores and general medical and surgical hospitals as the demand for prescription drugs grows. Moderate increases are expected in electronic shopping and mail-order houses as more people buy drugs through the Internet; moderate increases also are expected in department stores and other general merchandise stores and a large increase is expected in grocery stores as these stores add more pharmacies.
29-2054	Respiratory therapy technicians	A small decrease is expected in all industries as respiratory care is becoming less technical and more focused on direct patient care, which is provided by respiratory therapists.
29-2055	Surgical technologists	Small increases are expected in general medical, and surgical hospitals; in offices of physicians; and in outpatient care centers as surgical technologists replace nurses during surgery.
29-2056	Veterinary technologists and technicians	A small increase is expected in veterinary services as veterinary technicians take on more advanced tasks formerly conducted by veterinarians. Also, veterinary technicians will continue to replace less skilled veterinary assistants at animal clinics and hospitals.
29-2061	Licensed practical and licensed vocational nurses	A small increase is expected in nursing care facilities. The elderly in better health will choose home health care or assisted living facilities as an alternative to nursing care facilities, leaving those with the worst health in nursing care facilities who will require more highly-skilled workers, such as LPNs, to care for them. A moderate decrease is expected to occur in general medical and surgical hospitals and a small decrease is expected in offices of physicians as the demand for more highly-skilled RNs increases and lower-cost workers such as nursing aides will be able to perform many of the same duties as LPNs. A small decrease is expected in home health care services as an increasingly healthy elderly population will demand home health care services for health problems that are less severe than those in the past. This, combined with increasing technology, will allow lower-skilled workers, such as home health aides, to provide a lower-cost alternative to LPNs. A small decrease also is expected in community care facilities for the elderly as most health needs of the elderly can be handled through regular visits from home health aides.
29-2071	Medical records and health information technicians	A small increase is expected in outpatient care centers as the increased use of outpatient services preferred by third-party payers will cause increased growth in outpatient facilities procedures and the need to transcribe these procedures.
29-2081	Opticians, dispensing	A small increase in other general merchandise stores is expected as more of these retailers expand into eye care and hire dispensing opticians for related products.

Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

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29-2091	Orthotists and prosthetists	Small increases are expected in medical equipment and supplies manufacturing and cosmetic, beauty supply, and all other health and personal care stores reflecting evidence that complications from diseases with increasing prevalence, such as diabetes, will lead to increased demand for prostheses.
29-9091	Athletic trainers	General medical and surgical hospitals, public and private and offices of physical, occupational and speech therapists, and audiologists are both expected to experience small increases because athletic trainers provide a cost-efficient option for treatment and rehabilitation of injuries. Elementary and secondary schools, public and private are also expected to have a small increase as an increasing emphasis on the health of students is leading to more athletic trainers being placed in schools.
31-1011	Home health aides	Residential mental retardation facilities, community care facilities for the elderly, and services for the elderly and persons with disabilities are all expected to experience a small increase as patients are expected to receive less round-the-clock care and more care via visits from home health aides.
31-1012	Nursing aides, orderlies, and attendants	A small increase in general medical and surgical hospitals, public and private is expected as nursing aides will be a cost-effective substitute for LPNs. Community care facilities for the elderly is expected to have a small decrease as more home health aides treat the elderly.
31-2011	Occupational therapist assistants	A small increase is expected in general medical and surgical hospitals, public and private, and offices of physical, occupational and speech therapists, and audiologists due to the growing elderly population which will cause increased demand for therapy services. In addition, occupational therapists will delegate more job tasks to occupational therapist assistants.
31-2021	Physical therapist assistants	A moderate increase in general medical and surgical hospitals, public and private and small increases in nursing care facilities and home health care are expected as the result of growth in demand for physical therapy services by the elderly population.
31-9091	Dental assistants	A small increase will occur in offices of dentists as dentists will continue to hire more dental assistants and delegate easier tasks to them, allowing the dentists to visit more patients and spend time on more complex tasks.
31-9092	Medical assistants	A small increase is expected to occur across all industries. These cost-effective workers will continue to be used in the place of other occupations such as LPNs or nursing aides.
31-9094	Medical transcriptionists	A small decrease in general, medical, and surgical hospitals and in physicians' offices is expected as more transcription work is contracted out overseas and as investment in speech-recognition technology allowing for the nearly real-time dissemination of medical reports and charts increases.
31-9095	Pharmacy aides	Moderate decreases across all industries are expected due to increased use of pharmacy technicians instead of pharmacy aides.
31-9096	Veterinary assistants and laboratory animal caretakers	Small decreases are expected across all industries as more skilled veterinary technicians and technologists become the preferred form of help for veterinarians.
33-1011	First-line supervisors/managers of correctional officers	A small increase is expected in Federal and State governments because of expectations of increasing prison populations.
33-3021	Detectives and criminal investigators	A moderate increase is expected in the Federal government, excluding postal service and small increases are expected in State and local governments because of population growth and heightened concerns over security.
33-9021	Private detectives and investigators	A small increase is expected in investigation, guard, and armored car services as businesses increasingly seek to protect proprietary information and as background checks become more common. A small increase is expected in legal services as businesses seek to protect information; as firms investigate to find evidence in corporate scandals and information leaks; and as computer forensics become increasingly important for evidence.
33-9032	Security guards	Moderate decreases in department stores and small decreases in hotels (except casino), motels, and all other traveler accommodation are expected as these industries increasingly contract out services.
33-9091	Crossing guards	Small decreases across all industries are expected as enrollment growth is expected to be slower in areas with the most widespread use of crossing guards.
33-9099	Protective service workers, all other	Small increases are expected in Federal and State Government due to population growth and security concerns.
35-1011	Chefs and head cooks	A small decrease is expected in limited service eating places and a moderate decrease is expected in fitness and recreational sports centers due to the growth of restaurant chains and fitness facilities that will limit the growth of chefs and head cooks in favor of lower-level cooks.
35-1012	First-line supervisors/managers of food preparation and serving workers	A moderate increase is expected in grocery stores due to increases in the prepared foods and salad bar departments.
35-2011	Cooks, fast food	A moderate increase is expected in grocery stores due to increases in the prepared foods and salad bar departments.
35-2012	Cooks, institution and cafeteria	A small decrease is expected in elementary and secondary schools, public and private, and general medical and surgical hospitals, public and private, due to contracting out of food services. A small increase is expected in special food service due to contracting food services to this industry.
35-2019	Cooks, all other	A small decrease should occur across all industries because kitchens are highly structured. Staffing changes will occur by specific type of cook rather than in an all other category.



Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
35-2021	Food preparation workers	A small increase is expected in limited-service eating places as food preparation workers are needed to portion or assemble sandwiches, salads, and other foods. A moderate increase is expected in grocery stores due to increases in the prepared foods and salad bar departments.
35-3011	Bartenders	A small increase in full-service restaurants is expected as a growing number of full-service restaurants are highlighting specialty drink menus and offering lighter fare or smaller meals at the bar to introduce patrons to the full menu, thus requiring more bartenders to serve a growing customer base.
35-3021	Combined food preparation and serving workers, including fast food	An expected small increase in grocery stores is due to the increase of prepared food departments.
35-3031	Waiters and waitresses	A small decrease in hotels is expected to reflect the growing trend towards limited-service hotels without restaurants.
35-9011	Dining room and cafeteria attendants and bartender helpers	A small decrease in hotels is expected to reflect the growing trend towards limited-service hotels without restaurants.
35-9021	Dishwashers	A small decrease is expected in limited-service eating places due to expected increases in carry-out orders. A small decrease in hotels is expected to reflect the growing trend towards limited-service hotels without restaurants.
35-9031	Hosts and hostesses, restaurant, lounge, and coffee shop	A small decrease in hotels is expected to reflect the growing trend towards limited-service hotels without restaurants.
37-1011	First-line supervisors/managers of housekeeping and janitorial workers	Small decreases are expected in elementary and secondary schools, public and private; colleges, universities, and professional schools, public and private; local government, excluding education and hospitals; community care facilities for the elderly; and lessors of real estate due to these workers being increasingly contracted out in these industries, stemming from a desire to cut costs.
37-2011	Janitors and cleaners, except maids and housekeeping cleaners	There should be small decreases in colleges, universities, and professional schools, public and private; local government, excluding education and hospitals; and lessors of real estate, due to these workers being increasingly contracted out in these industries, stemming from a desire to cut costs.
39-1012	Slot key persons	A small decrease is expected in casino hotels and a moderate decrease is expected in gambling industries as the increased use of computerized and cashless slot machines will lessen the need for slot key persons.
39-3021	Motion picture projectionists	A small decrease is expected in all industries as digital screens and projectors require fewer motion picture projectionists to operate them.
39-5011	Barbers	A large decrease in employment in personal care services is expected as men are going to hairdressers, rather than barbers, in larger numbers.
39-5091	Makeup artists, theatrical and performance	A large increase in all industries is expected due to an anticipated increase in demand for theatrical and performance makeup services.
39-5094	Skin care specialists	A moderate increase is expected in personal care services. As the population ages, they will increasingly engage in personal indulgences such as skin care treatments to combat the effects of aging.
39-6011	Baggage porters and bellhops	A small decrease is expected in hotels due to expected increase in limited-service hotels which don't use bellhops. A small decrease is expected in scheduled air transportation as security concerns, nationalization of airport security operations, and airline cost cutting will lead to a greater realignment of staff.
39-6012	Concierges	A small decrease in hotels is expected to reflect the growing trend towards limited-service hotels.
39-6022	Travel guides	A small increase should occur in tour operators and all other travel arrangement and reservation services reflecting the greater demand for travel guides and tour services by a more mobile and affluent population.
39-9011	Child care workers	Small increases in child day care services; elementary and secondary schools, public and private; religious organizations; and civic and social organizations are expected as organizations increasingly provide child care services to members, employees, and the public.
39-9021	Personal and home care aides	Small increases are expected in home health care services, services for the elderly and persons with disabilities, and vocational rehabilitation services as home-based services and cost-containment concerns increase. A moderate decrease is expected in residential mental retardation facilities as principal care shifts to workers in other occupations. A moderate decrease is also expected in community care facilities for the elderly as these facilities focus more on day care than home care.
39-9031	Fitness trainers and aerobics instructors	A large increase is expected in employment in hospitals as more fitness centers are built in these institutions.
39-9032	Recreation workers	Small decreases across all industries are expected due to tight budgets.
41-2011	Cashiers, except gaming	Small decreases across all industries are expected as self-checkout and automation become more common and as the popularity of on-line purchasing increases.

Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
41-2012	Gaming change persons and booth cashiers	Spectator sports, casino hotels, and gambling industries are all expected to experience a moderate decrease and local government a small decrease as the increased use of cashless slots will lessen the need for change persons and booth cashiers.
41-2021	Counter and rental clerks	Small increases across all industries are expected as businesses strive to improve customer service.
41-2022	Parts salespersons	A small decrease is expected across all industries as the Internet and other electronic ordering systems will reduce the need for these workers.
41-3011	Advertising sales agents	Moderate increases are expected across most industries. As advertisers become more creative about where and how they advertise, they will need sales agents in all mediums to sell advertising space and time.
41-3021	Insurance sales agents	A small increase is expected in insurance agencies and brokerages as agents take on more tasks previously done by other occupations.
41-3031	Securities, commodities, and financial services sales agents	A small decrease is expected in the securities and commodities contract intermediation and brokerage industry because of continuing automation of brokerage activities. A small increase is expected in depository credit intermediation as many banks are becoming more heavily involved in the securities industry because of deregulation of financial services.
41-3099	Sales representatives, services, all other	A small increase is expected in all industries as businesses that sell services employ a growing share of sales representatives to generate new business.
41-9041	Telemarketers	A moderate decrease across all industries is expected as new technologies are allowing people to block telemarketer phone calls.
43-2011	Switchboard operators, including answering service	Moderate decreases are expected in all industries due to increasing automation of switchboards and outsourcing to call centers in other countries.
43-2021	Telephone operators	Large decreases are expected in all industries because of increased automation, wider availability of mobile Internet access, and outsourcing to foreign call centers.
43-3021	Billing and posting clerks and machine operators	Small decreases across all industries are expected due to increased automation.
43-3031	Bookkeeping, accounting, and auditing clerks	Small increases in accounting, tax preparation, bookkeeping, and payroll services are expected due to increased use of these workers compared to more highly paid professional workers.
43-3041	Gaming cage workers	A moderate decrease is expected across all industries as increased use of ticket slot machines and self-cash out machines will limit growth for this occupation relative to others involved in gambling.
43-3051	Payroll and timekeeping clerks	A small decrease is expected in most industries due to outsourcing. A small increase in accounting, tax preparation, bookkeeping, and payroll services is expected due to increased work contracted to this industry.
43-3061	Procurement clerks	A small decrease is expected in building material and supply dealers as procurement work is sent offshore or consolidated. Small decreases are also expected in Federal and State governments as procurement work is contracted out.
43-4011	Brokerage clerks	A small decrease is expected in all industries except depository credit intermediation because of automation and increased responsibility of stockbrokers.
43-4041	Credit authorizers, checkers, and clerks	Moderate decreases across all industries are expected due to increased automation.
43-4051	Customer service representatives	Small to moderate increases are expected across all industries as firms put more emphasis on improving the quality of their customer service.
43-4061	Eligibility interviewers, government programs	A small increase is expected in Federal government, excluding postal service as the retirement of baby boomers will require more interviewers to deal with the increases in the number of people who apply for social security and Medicare programs.
43-4071	File clerks	A very large decrease is expected across all industries due to automation and the increased use of electronic files.
43-4111	Interviewers, except eligibility and loan	A moderate decrease is expected in marketing research, public opinion polling, and all other professional, scientific, and technical services as increases in the use of online surveys will lessen the need for interviews conducted over the phone.
43-4121	Library assistants, clerical	Small decreases in colleges, universities, and professional schools and junior colleges, public and private, are expected due to decreases in staff services and increases in staff abilities to meet patron needs.
43-4131	Loan interviewers and clerks	A small decrease should occur in all industries as automation will increase productivity so that fewer workers will be required to process, check, and authorize applications than in the past.
43-4141	New accounts clerks	A moderate decrease is expected across all industries due to an increase in customer self service in opening new accounts as well as the duties of a new account clerk being consolidated into the duties of other more general positions such as customer service representatives.
43-4151	Order clerks	Large decreases are expected in all industries except electronic shopping and mail-order houses as electronic commerce continues to expand, affecting all transactions between consumers, business, and government, thereby reducing the need for order clerks.

Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
43-4171	Receptionists and information clerks	A small decrease in employment services is expected, as this industry continues shift away from the traditional clerical and administrative workers.
43-4199	Information and record clerks, all other	Moderate decreases across all industries are expected due to increased automation.
43-5021	Couriers and messengers	A small decrease is expected across all industries, as couriers and messengers will continue to be adversely affected by the more widespread use of electronic information-handling technologies such as e-mail, fax, and scanning of checks and other paper documents.
43-5032	Dispatchers, except police, fire, and ambulance	Small decreases are expected in all industries because of increased use of automated dispatching devices, such as computers and GPS, that make the dispatching function more efficient.
43-5041	Meter readers, utilities	Small decreases across all industries due to the introduction of remote meter reading technology that eliminates the function of this occupation.
43-5053	Postal service mail sorters, processors, and processing machine operators	There should be a small decrease in the postal service industry as the work performed by this occupation becomes increasingly automated.
43-5081	Stock clerks and order fillers	Small or moderate decreases are expected across all industries as computers are increasingly used for inventory control and the installation of automated order equipment increases the efficiency of making up orders.
43-5111	Weighers, measurers, checkers, and samplers, recordkeeping	A moderate decrease is expected across all industries due to the increased use of automated equipment that performs the functions of this occupation.
43-6014	Secretaries, except legal, medical, and executive	A small decrease should occur across all industries due to advances in technology which allow these workers to take on more duties, while other duties are automated.
43-9011	Computer operators	A large decrease is expected in all industries as older systems that require operators are replaced and technological advances make it possible to automate the remaining systems.
43-9021	Data entry keyers	A moderate decrease in all industries is expected as technology allows other workers to enter data.
43-9022	Word processors and typists	A moderate decrease in all industries is expected as technology allows word processing and other typing tasks to be performed by other workers.
43-9041	Insurance claims and policy processing clerks	An expected small decrease in all industries as technology allows more functions once done by these clerks to get taken over by customer service representatives or insurance professionals.
43-9051	Mail clerks and mail machine operators, except postal service	A moderate to large decrease is expected in most industries. As the popularity of electronic communications continues to grow fewer people will use formal post mail. A small decrease is expected in advertising and related services due to outsourcing to this industry.
43-9071	Office machine operators, except computer	A moderate decrease in all industries is expected due to advanced technology and automation which allows other workers to complete tasks formerly done by these workers.
43-9199	Office and administrative support workers, all other	There should be a moderate decrease across all industries because of advances in office technology, allowing these workers to be more productive and take on more duties.
45-2011	Agricultural inspectors	There should be a small increase in State government, excluding education and hospitals, as more States are conducting their own food inspections, taking over for the Federal Government. A small decrease in the Federal Government is expected as a result.
45-4021	Fallers	There should be a small decrease in the logging industry due to automation.
45-4022	Logging equipment operators	A small increase in logging is expected to occur, as the development of more logging equipment as an alternative to manually bringing down trees will result in a greater need for workers to run the machinery.
47-2011	Boilermakers	A small increase is expected all industries except plumbing, heating, and air conditioning contractors because many new clean-burning coal power plants are expected to be built over the projection period. Also, antiquated boilers in the commercial and industrial sectors are requiring more repair and replacement.
47-2041	Carpet installers	A small decrease is expected in all industries as more durable flooring products such as wood and tile increase in popularity. Additionally, many do-it-yourself homeowners are increasingly taking advantage of easy-to-install laminate floors as an alternative to carpet.
47-2042	Floor layers, except carpet, wood, and hard tiles	A moderate decrease is expected in all industries because of loss of market share to other flooring types, such as laminate, wood, and tile.

Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
47-2043	Floor sanders and finishers	A small decrease is expected in all industries as the increased use of prefinished flooring replaces some sanded-in-place flooring.
47-2044	Tile and marble setters	Small increases are expected in all industries as tile gains popularity relative to other building materials in both homes and nonresidential buildings.
47-2111	Electricians	A large decrease should occur in employment services as electricians are increasingly likely to be self-employed or hired by specialty trade contractors, which decreases the need for them to find work through the employment services industry.
47-2142	Paperhangers	A moderate decrease is expected in all industries as wallpaper is increasingly viewed as outdated and a greater number of people choose cheaper, more modern decorative paint finishes over wall coverings. Additionally, homeowners are able to take advantage of easy application materials if they do choose wallpaper.
47-2152	Plumbers, pipefitters, and steamfitters	A small increase is expected in the water and sewer system and all other utility system construction industry due to expected increases in power plant construction. Also, some are likely to be used as a replacement for boilermakers in this industry.
47-3014	Helpers—Painters, paperhangers, plasterers, and stucco masons	A small decrease is expected in all industries as demand shifts away from unskilled helpers toward more specialized skilled labor.
47-4011	Construction and building inspectors	A small increase in engineering, surveying, mapping, building inspection, and drafting services is expected as engineering and architectural advances, coupled with more stringent building codes, will lead to more inspectors needed to ensure compliance with codes and safety.
47-4041	Hazardous materials removal workers	A small decrease is expected in all industries as lead and asbestos remediation has been ongoing since the 1970's and continues to wind down, and Superfund projects will become limited because of limited federal funding.
47-4061	Rail-track laying and maintenance equipment operators	A small increase is expected in rail transportation as their services are becoming more important for rail operations.
47-4071	Septic tank servicers and sewer pipe cleaners	There should be a small decrease in the remediation and other waste management services industry due to productivity gains.
47-4099	Construction and related workers, all other	A moderate decrease in employment services should occur as many of the workers in this broad category are being reclassified to specific occupations within this industry.
47-5011	Derrick operators, oil and gas	Small decreases in oil and gas extraction are expected due to continued contracting out of this work.
47-5012	Rotary drill operators, oil and gas	Small decreases in oil and gas extraction are expected due to continued contracting out of this work.
47-5013	Service unit operators, oil, gas, and mining	Small decreases in oil and gas extraction are expected due to continued contracting out of this work.
47-5051	Rock splitters, quarry	A moderate increase in nonmetallic mineral mining and quarrying is expected. Dimension stone demand is likely to increase at a faster rate than other types of stone in this industry, and is also more labor intensive, yielding a faster growth for this occupation than for others in the industry.
49-2021	Radio mechanics	Small decreases across all industries are expected due to use of increasingly reliable radio equipment and more overlap with cell phone systems. The increasing use of wireless systems should somewhat offset those decreases.
49-2022	Telecommunications equipment installers and repairers, except line installers	A large increase in electrical contractors is expected because telecommunications and cable companies will outsource more of their work to them.
49-2091	Avionics technicians	A small increase is expected in aerospace product and parts manufacturing as these firms increasingly perform repairs. A small decrease is expected in scheduled air transportation and the Federal government, excluding postal service, as these industries increasingly outsource repair work to third-party maintenance contractors (foreign and domestic).
49-2092	Electric motor, power tool, and related repairers	Small decreases across all industries are expected due to greater reliability and easier repair of motors.
49-2094	Electrical and electronics repairers, commercial and industrial equipment	Small increases across all industries are expected due to the growing dependence on commercial and industrial equipment.

Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
49-2097	Electronic home entertainment equipment installers and repairers	Small decrease across all industries are expected as home electronic equipment becomes cheaper and more reliable, making it less expensive to replace than repair.
49-3011	Aircraft mechanics and service technicians	A small increase is expected in support activities for air transportation as services are contracted in to this industry. A moderate increase is expected in aerospace product and parts manufacturing as these firms increasingly perform repairs. Small decreases are expected in scheduled and nonscheduled air transportation and the Federal government, excluding postal service, as repair work is increasingly outsourced.
49-3021	Automotive body and related repairers	A small decrease is expected in automobile dealers as dealers focus on maintenance and engine service, and contract out auto body work.
49-3023	Automotive service technicians and mechanics	A small decrease is expected in gasoline stations as these establishments are getting out of the repair business. A small increase is expected in automotive dealerships as dealers try to add value to their vehicles through aftermarket services such as maintenance and repair.
49-3031	Bus and truck mechanics and diesel engine specialists	A small increase in automotive mechanical and electrical repair and maintenance due to an increased need to service diesel powered automobiles.
49-3041	Farm equipment mechanics	Moderate decreases in all industries except farm and garden machinery and equipment merchant wholesalers, which is expected to experience a small increase, as repair work is shifted to merchant wholesalers of farm and garden machinery and equipment.
49-3042	Mobile heavy equipment mechanics, except engines	A moderate increase is expected in the metal ore mining, as this industry becomes more mechanized and requires more mechanics. A moderate increase is also expected with merchant wholesalers of industrial machinery, equipment, and supplies as increasing numbers of wholesalers offer maintenance and repair services to customers: this equipment and machinery are increasingly becoming so complex that only manufacturer-trained mechanics are able to repair it.
49-3043	Rail car repairers	A small increase is expected in rail transportation. Productivity increases in this industry will lead to a relative increase in employment.
49-3052	Motorcycle mechanics	A small decrease in other motor vehicle dealers is expected because motorcycle dealers are not expected to be as large a growth area as other types of motor vehicle dealers.
49-3093	Tire repairers and changers	A moderate increase is expected in the automotive parts, accessories, and tire stores industry as this is a prominent maintenance duty for these establishments and those duties are expected to be required more often as cars are on the road longer. A small decrease is expected in most other industries because of longer-lasting tires and job duties being folded into other workers' duties.
49-9012	Control and valve installers and repairers, except mechanical door	There should be a small increase in the electric power generation, transmission, and distribution as more workers will be needed to fix and maintain the large number of power plants being built to meet energy demand.
49-9031	Home appliance repairers	A small decrease is expected in department stores and appliance, TV, and all other electronics stores as these firms scale back their repair services. A small increase is expected in personal and household goods repair and maintenance as most establishments that offer home appliance repair will contract work to this industry.
49-9041	Industrial machinery mechanics	Moderate increases across all industries are expected due to increasing automation in the manufacturing sector which requires more maintenance. In addition, many maintenance positions are being consolidated into broader, more flexible positions like industrial maintenance mechanics.
49-9044	Millwrights	Small increases across all industries are expected because millwrights will be needed to build and maintain the growing number of automated machines used in manufacturing.
49-9051	Electrical power-line installers and repairers	Small increases across most industries are expected due to increased demand for electrical power which will require more power lines.
49-9061	Camera and photographic equipment repairers	A small decreases is expected in all industries as the prices of new cameras fall, leading users to replace rather than repair cameras.
49-9062	Medical Equipment Repairers	A small increase is expected in all industries, as medical equipment becomes more complicated.
49-9064	Watch repairers	A small decrease is expected in all industries as watches are generally replaced rather than repaired.
49-9069	All other precision instrument and equipment repairers	Moderate increases in the electronic and precision equipment repair and maintenance industry because of increasing automation of high tech manufacturing.
49-9095	Manufactured building and mobile home installers	There should be a small decrease across all industries due to an expected decreased demand for manufactured and mobile homes.



Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
51-2021	Coil winders, tapers, and finishers	Moderate decreases across all industries are expected due to increasing automation.
51-2022	Electrical and electronic equipment assemblers	Moderate decreases across all industries are expected due to increasing automation, use of robotics, and foreign competition.
51-2099	All other assemblers and fabricators	Small decreases across all industries are expected as those in this occupation become more likely to be classified as team assemblers or in another more specific assembly occupation.
51-3011	Bakers	A small increase is expected in bakeries and tortilla manufacturing; outsourcing to bakeries by large grocery stores should continue to grow as artisan and specialty breads continue to gain in popularity.
51-3093	Food cooking machine operators and tenders	A small decrease is expected in all industries as automation will continue to increase productivity and negatively impact employment.
51-4011	Computer-controlled machine tool operators, metal and plastic	Small increases across all industries are expected due to shifts from manual operations to use of computer-numerical-controlled machines.
51-4022	Forging machine setters, operators, and tenders, metal and plastic	Moderate decreases across all industries are expected due to increasing automation and more productive manufacturing techniques.
51-4023	Rolling machine setters, operators, and tenders, metal and plastic	Small increases in iron and steel mills and ferroalloy manufacturing are expected due to increased skill needs as the structure of the industry shifts from integrated mills to minimills.
51-4031	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	Expected small decreases across all industries except employment services are due to increasing automation.
51-4032	Drilling and boring machine tool setters, operators, and tenders, metal and plastic	Small decreases across all industries are expected due to increasing automation.
51-4034	Lathe and turning machine tool setters, operators, and tenders, metal and plastic	Small decreases across all industries are expected due to increasing automation.
51-4035	Milling and planing machine setters, operators, and tenders, metal and plastic	Small decreases across all industries are expected due to increasing automation.
51-4041	Machinists	Small increases across all industries are expected because machinists will take over much of the work of lower-skilled machining occupations.
51-4072	Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic	Small decreases across all industries, except foundries, are expected due to automation and increased productivity.
51-4081	Multiple machine tool setters, operators, and tenders, metal and plastic	Small increases are expected across all industries can be expected because employers prefer the flexibility of hiring those who can work more than one machine.
51-4111	Tool and die makers	Small increases across all industries can be expected because the occupation is essential for automation.
51-4121	Welders, cutters, solderers, and brazers	Small increases across all industries can be expected as welding applications continue to expand due to technological improvements.
51-4122	Welding, soldering, and brazing machine setters, operators, and tenders	Small increases are expected across all industries such as motor vehicles parts manufacturing; architectural and structural metals manufacturing; and agricultural, construction, and mining, machinery manufacturing industries due to the expanding uses of machine welding equipment.

Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
51-4192	Lay-out workers, metal and plastic	Moderate decreases across all industries are expected due to improvements in manufacturing techniques.
51-4194	Tool grinders, filers, and sharpeners	A small decrease across all industries is expected due to an increased propensity to replace rather than repair tools.
51-4199	All other metal workers and plastic workers	Moderate decreases are expected across all industries are expected due to increased automation and greater productivity.
51-5011	Bindery workers	A small decrease in all industries except employment services is expected due to outsourcing opportunities and increased productivity through automation.
51-5021	Job printers	A large increase is expected in advertising and related services because many in this industry are finding it cheaper to produce their own print advertisements on a small scale using new technology.
51-5022	Prepress technicians and workers	A small decrease is expected across all industries as the job duties for prepress technicians have been simplified, digitized, and automated to the point where other workers (newspaper editors, desktop publishers at magazines, and some trained customer service representatives) are performing job duties that had been those of prepress technicians.
51-6031	Sewing machine operators	A small decrease should occur in apparel accessories and other apparel manufacturing and apparel knitting mills, as the work of this occupation is expected to be outsourced faster than other occupations in these industries.
51-6051	Sewers, hand	A small decrease should occur across all industries due to the offshoring of this occupation to other countries who can perform these functions at a lower cost.
51-6052	Tailors, dressmakers, and custom sewers	There should be a small increase in personal and household goods repair and maintenance, as clients who use these workers' services in this industry will continue to demand them at the same rate even as overall industry employment decreases. A small increase should also occur in drycleaning and laundry services as the services offered by this occupation become increasingly important for these businesses.
51-6091	Extruding and forming machine setters, operators, and tenders, synthetic and glass fibers	A small decrease should occur across all industries due to productivity improvements.
51-6099	All other textile, apparel, and furnishings workers	A small decrease should occur across all industries, except janitorial and all other services to buildings and dwellings, because of the productivity gains.
51-7031	Model makers, wood	Increasing use of automated machinery is expected to make for a large decrease in all industries.
51-7032	Patternmakers, wood	Increasing use of automated machinery is expected to make for a large decrease in all industries.
51-7041	Sawing machine setters, operators, and tenders, wood	As wood sawing and cutting becomes more automated and machinery more complex, small increases across all industries are expected for operators and tenders.
51-7042	Woodworking machine setters, operators, and tenders, except sawing	Small increases in all industries are expected as a result of increased use of machinery in wood manufacturing.
51-8092	Gas plant operators	Small increases are expected in all industries because there is usually only one plant operator per facility so it is not often possible to eliminate gas plant operators.
51-9021	Crushing, grinding, and polishing machine setters, operators, and tenders	Small decreases across all industries are expected due to automation.
51-9031	Cutters and trimmers, hand	There should be a small increase across all industries as this occupation is difficult to automate, leading to a continued demand for these services relative to other occupations in the employing industries.
51-9081	Dental laboratory technicians	Offices of dentists is expected to experience a small decrease as dentists are more likely to contract work out to dental laboratories.
51-9082	Medical appliance technicians	Small increases are expected in medical equipment and supplies manufacturing and cosmetic, beauty supply, and all other health and personal care stores reflecting evidence that complications from diseases with increasing prevalence, such as diabetes, are leading to increased demand for prostheses.
51-9083	Ophthalmic laboratory technicians	A small decrease is expected in offices of physicians as automation is making these workers more efficient.
51-9111	Packaging and filling machine operators and tenders	A small decrease is expected in all industries due to productivity improvements.

Table IV-3 Factors affecting occupational utilization, 2006-16 — Continued

Matrix code	Matrix occupation title	Factors affecting occupational utilization
51-9121	Coating, painting, and spraying machine setters, operators, and tenders	Small decreases across all industries can be expected due to increased automation and improved productivity.
51-9122	Painters, transportation equipment	Small decreases expected in automobile dealers because fewer dealerships are expected to do collision repairs and small decreases expected in motor vehicle body and trailer manufacturing because of automation.
51-9131	Photographic process workers	A large decrease is expected across all industries as many photographers are processing their own pictures with increases in digital photography and the better editing software now available.
51-9132	Photographic processing machine operators	Very large decreases are expected in all industries as digital technology makes it easier for individuals to print, copy, and alter photographs with the use of personal computers and equipment.
51-9192	Cleaning, washing, and metal pickling equipment operators and tenders	A small decrease is expected in all industries due to productivity improvements.
51-9193	Cooling and freezing equipment operators and tenders	A small decrease is expected in all industries due to productivity improvements.
53-1011	Aircraft cargo handling supervisors	A small increase in the ratio of aircraft cargo handling supervisors in all industries is expected as demand rises for the rapid movement of goods and products by air, both domestically and internationally.
53-2021	Air traffic controllers	A small increase is expected in the Federal government due to an anticipated increase in commercial aircraft traffic.
53-3031	Driver/sales workers	Small decreases across all industries are expected due an expected shift toward the use of sales persons rather than driver/sales workers.
53-4013	Rail yard engineers, dinkey operators, and hostlers	A large decrease in rail transportation is expected as this occupation is being automated through such technology as remote control of engines.
53-4099	Rail transportation workers, all other	A moderate decrease is expected in rail transportation due to productivity improvements.
53-6011	Bridge and lock tenders	A small decrease across all industries is expected due to the phase-out of many draw bridges.
53-6021	Parking lot attendants	Small decreases across all industries are expected due to increasing use of self-validating/self-serve parking systems.
53-6051	Transportation inspectors	Small increases across all industries are expected due to increasing security concerns.
53-7011	Conveyor operators and tenders	Small decreases are expected in all industries except warehousing and storage due to the phase out of conveyors needing tending.
53-7051	Industrial truck and tractor operators	Small decreases across all industries are expected due to continued emphasis on operational efficiencies.
53-7062	Laborers and freight, stock, and material movers, hand	Small decreases across all industries are expected due to automation.
53-7063	Machine feeders and offbearers	Small decreases across all industries are expected due to automation.
53-7064	Packers and packagers, hand	Moderate decreases across all industries are expected due to automation.
53-7072	Pump operators, except wellhead pumpers	Small decreases across all industries are expected due to automation.
53-7073	Wellhead pumpers	Small decreases across all industries are expected due to automation.
53-7081	Refuse and recyclable material collectors	Small decreases across all industries are expected due to automation.
53-7111	Shuttle car operators	Small decreases across all industries are expected due to automation.
53-7199	Material moving workers, all other	Small decreases across all industries are expected due to automation.