

## High-Priority Jobs Report

## DALLAS



## Committing to a Future Where Dallas Thrives

In November 2020, the Commit Partnership, the Dallas Regional Chamber, and over 50 community partners issued a report announcing "Dallas Thrives," a bold vision "to double living wage attainment and inclusion in a single generation while providing Dallas employers with the diverse, skilled talent they need to grow their companies and our economy." Realizing this vision will require a coordinated effort among K-12 education, higher education, and industry leaders to create and support accessible, equitable career pathways that connect all individuals to opportunity and lead to highwage, in-demand jobs. This work starts by identifying the industries that are growing in the Dallas area, the jobs in those industries that pay a living wage, and the education, skills, and credentials necessary to be qualified for those jobs. In short, the work starts with the High-Priority Jobs Report.

## The High-Priority Jobs Report

The research in this report was led by the Dallas Thrives Workforce Alignment Working Group, a collaboration among experts in labor market information from the Commit Partnership, Dallas College, the Dallas Regional Chamber, the University of Texas at Dallas, and Workforce Solutions Greater Dallas. Business and Financial Services, Education, Health Care, and Information Technology (IT) were identified as being high-growth sectors in the Dallas area, adding nearly 24,000 jobs that pay living wages by 2024 . The top employers and the top technical and employability skills were also identified for each sector, as well as the entrylevel education requirements. This data was vetted by Dallas employers in each of the four high-growth sectors in a series of roundtable discussions, ensuring that the report accurately reflects industry need while confirming the knowledge, skills, and certifications required by workers and to be delivered by education partners. This
coordination and cooperation among Dallas stakeholders in crafting this report is both a critical first step toward creating accessible, equitable career pathways and a conspicuous commitment to Dallas Thrives.

## The Challenge of Squaring Earning a Living Wage with Entry-Level Education Requirements

Education, and postsecondary education in particular, is a challenge that must be prioritized and addressed if Dallas Thrives is to become a reality. Only $5 \%$ of the population 25 years and over possess an associate's degree and less than a third possess a bachelor's degree. But $95 \%$ of the entry-level jobs- 19 out of 20-identified as high-priority jobs in this report require one or the other degree. At the core of the Dallas Thrives purpose is doubling living wage attainment, which is why the high-priority jobs were selected to align with living wage criteria. We know that the living wage has increased in the past year. When Dallas Thrives was announced in November 2020, the living wage was about $\$ 50,000$ a year, or $\$ 24.00$ per hour, for an adult with one child.
[cite MIT Living Wage Calculator] Now, less than a year later, that living wage is about $\$ 63,500$, or $\$ 30.50$ per hour. At $\$ 31,200$ a year ( $\$ 15.00$ per hour), the living wage for a single adult is, as might be expected, much less. This report illuminates that access to jobs that offer living wages are likely to require some postsecondary education, and it is often a Bachelors degree.

## Thriving Together

The High-Priority Jobs Report is a pulse check of the health of the Dallas labor market, not a prognosis. The report is meant to focus attention on jobs that pay living wages in four high-growth sectors and to inspire action from stakeholders, first preparing the local workforce for these jobs and then committing to hire this highly skilled talent in order to meet industry need. Together, we can connect all individuals to the education and training opportunities that lead to high priority jobs, impacting lives for the better while maintaining Dallas industries' competitive advantage in the local, national, and even world markets. Together, we can ensure that Dallas thrives.


## Definitions of Terms in this Report

## Living Wage

Living wage is an alternative measure of basic needs. It is a market-based approach that draws upon geographically specific expenditure data related to a family's likely minimum food, childcare, health insurance, housing, transportation, and other basic necessities (e.g. clothing, personal care items, etc.) costs. The living wage draws on these cost elements and the rough effects of income and payroll taxes to determine the minimum employment earnings necessary to meet a family's basic needs while also maintaining self-sufficiency. (https://livingwage.mit.edu/pages/about)

## Family-Supporting Wage

A family-supporting wage in this report is defined as the living wage for one adult with one child.

## Entry-Level Hourly Earnings

Entry-level hourly earnings are the average earnings workers earn at entry-level in any given occupation or industry.

## Median Hourly Earnings

If hourly wages of all workers were arranged in order, the median wage would be the one with exactly half the data above it and half below it. The median wage is generally considered to be a more accurate reflection of the "average" wage because it discounts extremes at either of the scale. This is important, particularly in job families where this is such a significant gap between the salaries of senior executives and the average worker.

## Job Family

Job families are broadly defined groupings of jobs involving work of the same nature and required foundational knowledge, but requiring different skills and competencies. Jobs in a family may not be unique to a single industry or sector. Job families are useful in understanding career paths and relationships between jobs.

## Job Openings

25 words. Lanit, cusamus sum quaecum voluptas aut vel molupis nusantor mi, tor audit volest endi repudant. Simusdandae provident, as autaqui remo et fugias alit.

## Technical Skills

Technical skills are the skills that are specific to the industry, job family or occupation. These skills are typically required for the day-to-day tasks and responsibilities of a job.

## Employability Skills

Employability skills are workplace dispositions and attitudes connected to often-performed work tasks and behaviors. Applicable across many industries, employability competencies include the ability to connect industry knowledge to one's personal efficacy in the workplace.

## Criteria for Data Analysis

The working group evaluated multiple data sources and agreed to use EMSI and key criteria to define high priority jobs.

## Key Criteria:

- Greater than or equal to $\$ 15.98 / \mathrm{hr}$ entry level wage (Pct 10 Hourly Earnings)
- Greater than or equal to $\$ 21.30 / \mathrm{hr}$ median wage
- One or more of the following:
- greater than or equal to 100 net new jobs added, 2021-2024; and/or
- greater than or equal to $50 \%$ job growth rate, 2021-2024; and/or
- greater than or equal to 100 openings (net new and replacement jobs), 2021-2024
- Minimum HS diploma or equivalent required
- Less than an advanced degree required
- No work experience required
- Low automation risk


## Additional Criteria for Consideration:

- Turnover rates
- Retirement risks
- Regional completions
- Location quotient
- Emerging trends
https://censusreporter.org



## High-priority jobs are in-demand, offer opportunity for advancement and pay a living wage

## $\approx 25,000$

By 2024, the Top 5 Occupations in Each of Four High-Growth Industries Will Add Nearly 25,000 High-Priority Jobs to Dallas

## 7,900

3,700
Education

4,900
Health Care

8,200
Information
Technology

Living wages in Dallas have increased nearly $30 \%$ over the last year. Either entry-level jobs must pay more or workers must be better qualified for higher-paying entry-level positions in order to thrive in Dallas.
Living Wage For One Adult
\$63,880
Living Wage For One Adult and One Child

## Educational attainment differs drastically among Dallas' residents.

Left unchecked, high-priority jobs will go unfilled, and Black and Hispanic/Latinx individuals will be differentially excluded from these jobs.


High-Priority Jobs Identified Require Either a 2- or 4-Year Degree

Percent of Population 25 Years and Over With a Bachelor's Degree, By Race/Ethnicity


## Top 5 Jobs

Business and Financial Services, Education, Health Care, and Information Technology (IT) are highlighted here because they are high-growth job families in the Dallas area, adding nearly 24,000 jobs that pay living wages by 2024. From the full list of High-Priority Jobs (see Appendix) defined by the Dallas Thrives Workforce Alignment Working Group, 5 Top Jobs were selected for each job family. In addition to data about each of the jobs, you'll find the top employers and the top technical and employability skills for each of the job families. This data was vetted by Dallas employers in each of the four high-growth sectors in a series of roundtable discussions, ensuring that the report accurately reflects industry need.

To better understand what true education and industry partnership looks like, you'll find a spotlight on an industry partner in each job family. These industry partners walk the Dallas Thrives walk and are committed to our collective goals.

- Business and Financial Services
- Education
- Health Care
- Information Technology



## Business and Financial Services TOP 5 JOBS

These top five high-priority jobs are in-demand by local employers hiring for business and financial services roles. This industry is growing in Dallas, and employers hiring for these high-priority jobs are looking for entry-level talent to have a Bachelor's degree.

| Occupation | Entry-Level Hourly Earnings | Median Hourly Earnings | Educational Requirement | 2021 Jobs | Projected Growth 2021-2024 <br> (Change in number of Jobs) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Accountants and Auditors | \$24.04 | \$37.04 | Bachelor's degree | 45,304 | 2,161 |
| Project Management Specialists and Business Operations Specialists | \$22.89 | \$38.55 | Bachelor's degree | 43,833 | 2,036 |
| Market Research Analysts and Marketing Specialists | \$19.10 | \$34.03 | Bachelor's degree | 15,866 | 1,556 |
| Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists | \$23.66 | \$38.65 | Bachelor's degree | 18,841 | 1,065 |
| Human Resources Specialists | \$19.49 | \$30.55 | Bachelor's degree | 18,299 | 1,055 |

## Top skills

Technical

- Customer Service
- Sales/Business Development
- Project Management

Employability

- Communication Skills
- Teamwork/Collaboration
- Microsoft Excel


## Education TOP 5 JOBS

These top five high-priority jobs are in-demand by local employers hiring for education services roles. This industry is growing in Dallas, and employers hiring for these high-priority jobs are looking for entry-level talent to have a Bachelor's degree.

| Occupation | Entry-Level Hourly Earnings | Median Hourly Earnings | Educational Requirement | 2021 Jobs | Projected Growth 2021-2024 (Change in number of Jobs) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Elementary School Teachers, Except Special Education $(\$ 58,035)$ | \$24.10 | \$27.90 | Bachelor's degree | 36,019 | 1,521 |
| Secondary School Teachers, Except Special and Career/Technical Education $(\$ 58,525)$ | \$22.65 | \$28.14 | Bachelor's degree | 27,840 | 1,186 |
| Middle School Teachers, Except Special and Career/Technical Education $(\$ 58,035)$ | \$23.58 | \$27.90 | Bachelor's degree | 16,329 | 673 |
| Kindergarten Teachers, Except Special Education $(\$ 56,844)$ | \$21.51 | \$27.33 | Bachelor's degree | 4,138 | 155 |
| Special Education Teachers, Kindergarten and Elementary School $(\$ 58,421)$ | \$24.59 | \$28.09 | Bachelor's degree | 4,171 | 174 |



## Health Care TOP 5 JOBS

These top five high-priority jobs are in-demand by local employers hiring for health care services roles. This industry is growing in Dallas, and employers hiring for these high-priority jobs are looking for entry-level talent to have a xx degree.

| Occupation | Entry-Level Hourly Earnings | Median Hourly Earnings | Educational Requirement | 2021 Jobs | Projected Growth 2021-2024 <br> (Change in number of Jobs) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Registered Nurses | \$26.50 | \$36.35 | Bachelor's degree | 63,844 | 3,076 |
| Licensed Practical and Licensed Vocational Nurses | \$19.36 | \$23.73 | Postsecondary nondegree award | 17,276 | 942 |
| Dental Hygienists | \$30.96 | \$39.30 | Associate's degree | 5,090 | 386 |
| Respiratory Therapists | \$24.67 | \$30.46 | Associate's degree | 3,622 | 249 |
| Radiologic Technologists and Technicians | \$17.79 | \$29.70 | Associate's degree | 3,860 | 212 |

Top employers
Christus Health.

BaylorScott\&White
HCA
Healthcare"
Texas Health
Resources*

## Top skills

Technical

- Patient Care
- Scheduling
- Cardiopulmonary

Resuscitation (CPR)
Employability

- Communication Skills
- Teamwork/Collaboration
- Computer Literacy


## Medical City Healthcare

## Information Technology TOP 5 JOBS

These top five high-priority jobs are in-demand by local employers hiring for information technology services roles. This industry is growing in Dallas, and employers hiring for these high-priority jobs are looking for entry-level talent to have a xx degree.

| Occupation | Entry-Level Hourly Earnings | Median Hourly Earnings | Educational Requirement | 2021 Jobs | Projected Growth 2021-2024 <br> (Change in number of Jobs) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Software Developers and Software Quality Assurance Analysts and Testers | \$32.91 | \$52.56 | Bachelor's degree | 54,374 | 5,415 |
| Computer Systems Analysts | \$27.47 | \$45.14 | Bachelor's degree | 20,463 | 1,492 |
| Network and Computer Systems Administrators | \$27.88 | \$42.51 | Bachelor's degree | 12,843 | 655 |
| Web Developers and Digital Interface Designers | \$16.72 | \$32.70 | Associate's degree | 4,941 | 340 |
| Computer Network Support Specialists | \$20.88 | \$36.22 | Associate's degree | 5,583 | 330 |

## Top employers <br> ORACLE

JPMorgan Chase \& Co.
citigroups

## CapitalOne

## Cognizant

## Top skills

Technical

- Software Development
- SQL
- JAVA

Employability

- Teamwork
- Problem Solving
- Verbal Communications


## Working Together to ensure Dallas Thrives

Together, we can realize our collective goal of moving to $25 \%$ to $50 \%$ of young adults earning a living wage by 2040 . To do that, we must build on the efforts undertaken to develop this report to continue to define and align on the region's high priority living-wage jobs and career pathways. Below are our next steps, as we come together to ensure that Dallas continues to thrive and is a city of opportunity for everyone.

## What's next?

## ] We have a significant gap between the education levels of our current workforce and the required education for our highpriority jobs.

There is now an opportunity for industry partners to reevaluate their degree requirements and for education and training providers to redesign their programs, to ensure that there is alignment between regional talent development efforts and workforce needs. If we don't address this, we are at risk of further excluding our Black and Hispanic/LatinX individuals from living wage jobs.

## 2 The credential matters, but so do the skills.

- We must ensure entry-level workers develop the most requested technical and employability skills in each job family by providing education, training and workbased learning experiences aligned with local labor market needs. For a full list of top skills for each job family, see Appendix.


## 2 We must ensure that high-priority job demand and the supply - of local talent are aligned and balanced.

Education and workforce partners should work together to analyze the landscape of education and training programs to determine where to refine programs and where to make additional investments to support alignment to a thriving regional economy.


## Appendix of High-Priority Jobs

## by Industry and Typical Entry Level Education

## High School or Equivalent

| Description (Median Annual Earnings) |  |  |  | - | 吕 | $\begin{aligned} & \text { I } \\ & \text { o } \\ & \text { İ } \\ & \text { 은 } \end{aligned}$ |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Business Operations Specialists |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Claims Adjusters, Examiners, and Investigators $(\$ 67,925)$ | \$19.19 | \$32.66 | Long-term on-the-job training | 9,974 | ? | 397 | 4.0\% | 3,376 | 31.7\% | 89.4 | 17\% | 4\% | 153 |
| Law Enforcement Workers |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Police and Sheriffs Patrol Officers $(\$ 72,129)$ | \$24.76 | \$34.68 | Moderateterm on-thejob training | 15,363 | ? | 550 | 3.6\% | 4,875 | 19.8\% | 94.5 | 9\% | 2\% | 283 |
| Correctional Officers and Jailers $(\$ 48,234)$ | \$17.94 | \$23.19 | Moderateterm on-thejob training | 5,480 | ? |  |  | 1,920 | 29.1\% | 90.5 | 13\% | 3\% | 39 |
| Other Protective Service Workers |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Transportation Security Screeners (\$44,971) | \$18.40 | \$21.62 | Short-term on-the-job training | 615 | $?$ | 5 | 0.8\% | 221 | 32.7\% | 96.7 | 19\% | 8\% | 0 |
| Information and Record Clerks |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Brokerage Clerks $(\$ 52,392)$ | \$17.29 | \$25.19 | Moderateterm on-thejob training | 2,148 | ? | 159 | 7.4\% | 1,076 | 38.1\% | 98.0 | 17\% | 7\% | 756 |


| Secretaries and Administrative Assistants |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Legal Secretaries and Administrative Assistants (\$54,740) | \$16.97 | \$26.32 | Moderateterm on-thejob training | 3,744 | ? |  |  | 1,533 | 63.9\% | 98.2 | 27\% | 11\% | 38 |
| Air Transportation Workers |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Commercial Pilots $(\$ 105,268)$ | \$32.59 | \$50.61 | Moderateterm on-thejob training | 2,336 | ? | 41 | 1.7\% | 948 | 47.1\% | 89.6 | 22\% | 7\% | 94 |
| Airfield Operations Specialists $(\$ 82,037)$ | \$21.72 | \$39.44 | Long-term on-the-job training | 649 | ? | 25 | 3.9\% | 241 | 33.3\% | 90.9 | 20\% | 5\% | 0 |
| Rail Transportation Workers |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Railroad Conductors and Yardmasters $(\$ 56,740)$ | \$20.99 | \$27.28 | Moderateterm on-thejob training | 1,043 | ? | 32 | 3.1\% | 399 | 68.3\% | 98.1 | 15\% | 2\% | 530 |

## Post-Secondary

| Description (Median Annual Earnings) |  |  |  | $\frac{\square}{\stackrel{\circ}{\circ}}$ | \% | $\begin{aligned} & \text { I } \\ & \text { ㅇ } \\ & \text { İ } \\ & \text { 은 } \end{aligned}$ | $\begin{aligned} & \text { s o } \\ & \text { İ } \\ & \text { İ } \\ & \text { 응 } \end{aligned}$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Business Operations Specialists |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Insurance Appraisers, Auto Damage ( $\mathbf{\$ 6 0 , 9 9 2 \text { ) }}$ | \$21.46 | \$29.32 | Moderateterm on-the-job training | 1,123 | 1,071 | 1,123 | 52 | 4.9\% | 377 | 29.1\% | 91.2 | 16\% | 3\% |
| Media and Communication Workers |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Court Reporters and Simultaneous Captioners $(\$ 76,150)$ | \$17.12 | \$36.61 | Short-term on-the-job training | 509 | 523 | 14 | 2.8\% | 184 | 29.0\% | 97.9 | 23\% | 10\% | 37 |
| Health Technologists and Technicians |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Licensed Practical and Licensed Vocational Nurses (\$49,361) | \$19.36 | \$23.73 | None | 17,276 | 18,218 | 942 | 5.5\% | 6,051 | 57.2\% | 84.8 | 18\% | 5\% | 2,480 |
| Surgical Technologists $(\$ 50,757)$ | \$16.50 | \$24.40 | None | 2,385 | 2,492 | 107 | 4.5\% | 848 | 36.1\% | 89.0 | 10\% | 2\% | 1,607 |

## Associate's Degree



## Computer Occupations

Computer Network

| Support Specialists | \$20.88 | \$36.22 | None | 5,583 | 5,912 | 330 | 5.9\% | 1,935 | 36.9\% | 86.9 | 13\% | $2 \%$ | 5,307 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

$(\$ 75,338)$
Web Developers and
$\begin{array}{llllllllllllllll}\text { Digital Interface } & \$ 16.72 & \$ 32.70 & \text { None } & 4,941 & 5,281 & 340 & 6.9 \% & 1,759 & 34.7 \% & 88.4 & 7 \% & 2 \% & 16,568\end{array}$
Designers (\$68,010)
Drafters, Engineering Technicians, and Mapping Technicians

| Architectural and Civil Drafters $(\$ 55,794)$ | \$17.46 | \$26.82 | None | 4,115 | 4,229 | 114 | 2.8\% | 1,579 | 52.6\% | 88.9 | 15\% | 5\% | 932 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Electrical and <br> Electronic Engineering <br> Technologists and <br> Technicians $\mathbf{( \$ 6 5 , 2 0 8 )}$ | \$18.61 | \$31.35 | None | 3,245 | 3,353 | 108 | 3.3\% | 1,217 | 40.7\% | 98.6 | 25\% | 6\% | 2,176 |
| Calibration Technologists and Technicians and Engineering Technologists and Technicians, Except Drafters, All Other $(\$ 61,594)$ | \$19.00 | \$29.61 | None | 2,017 | 2,089 | 72 | 3.6\% | 765 | 49.8\% | 92.1 | 22\% | 5\% | 1,387 |
| Civil Engineering Technologists and Technicians $\mathbf{( \$ 4 6 , 6 3 3 )}$ | \$16.22 | \$22.42 | None | 1,350 | 1,407 | 57 | 4.2\% | 524 | 45.5\% | 92.4 | 19\% | 5\% | 752 |
| Mechanical Drafters $(\$ 55,265)$ | \$16.32 | \$26.57 | None | 1,185 | 1,197 | 13 | 1.1\% | 433 | 57.7\% | 84.6 | 20\% | 8\% | 856 |
| Electrical and Electronics Drafters (\$59,692) | \$17.16 | \$28.70 | None | 850 | 872 | 22 | 2.6\% | 325 | 44.2\% | 91.0 | 20\% | 6\% | 856 |

## Associate's Degree



Life, Physical, and Social Science Technicians

| Environmental <br> Science and Protection <br> Technicians, Including <br> Health (\$50,782) | \$17.05 | \$24.41 | None | 839 | 896 | 56 | 6.7\% | 449 | 70.1\% | 88.5 | 12\% | 4\% | 387 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Forest and Conservation Technicians $\mathbf{( \$ 4 5 , 3 0 7 )}$ | \$17.10 | \$21.78 | None | 285 | 290 | 5 | 1.8\% | 133 | 40.4\% | 75.5 | 13\% | 4\% | 0 |
| Legal Support Workers |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Paralegals and Legal Assistants $\mathbf{( \$ 5 8 , 6 3 0 )}$ | \$19.97 | \$28.19 | None | 8,708 | 9,261 | 553 | 6.4\% | 4,137 | 48.4\% | 89.4 | 17\% | 5\% | 1,403 |
| Healthcare Diagnosing or Treating Practitioners |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Dental Hygienists $(\$ 81,749)$ | \$30.96 | \$39.30 | None | 5,090 | 5,476 | 386 | 7.6\% | 1,724 | 51.1\% | 96.8 | 11\% | 3\% | 1,444 |
| Respiratory Therapists $(\$ 63,359)$ | \$24.67 | \$30.46 | None | 3,622 | 3,871 | 249 | 6.9\% | 966 | 21.1\% | 93.2 | 18\% | 3\% | 1,185 |
| Radiation Therapists (\$83,230) | \$31.98 | \$40.01 | None | 928 | 960 | 32 | 3.4\% | 215 | 24.2\% | 92.7 | 11\% | 2\% | 787 |
| Health Technologists and Technicians |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Radiologic Technologists and Technicians $(\$ 61,781)$ | \$17.79 | \$29.70 | None | 3,860 | 4,072 | 212 | 5.5\% | 1,013 | 22.9\% | 94.1 | 14\% | 3\% | 1,978 |
| Diagnostic Medical Sonographers (\$74,741) | \$27.36 | \$35.93 | None | 1,501 | 1,619 | 118 | 7.9\% | 445 | 22.4\% | 93.3 | 14\% | 3\% | 1,125 |

Occupational Therapy and Physical Therapist Assistants and Aides

| Occupational Therapy Assistants $\mathbf{( \$ 6 7 , 0 6 0 )}$ | \$20.10 | \$32.24 | None | 1,425 | 1,575 | 150 | 10.6\% | 764 | 72.0\% | 87.3 | 11\% | 2\% | 1,006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Air Transportation Workers |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Air Traffic Controllers $(\$ 148,492)$ | \$42.43 | \$71.39 | Long-term on-the-job training | 915 | 931 | 15 | 1.7\% | 313 | 28.5\% | 90.7 | 12\% | 2\% | 0 |

## Bachelor's Degree

| Description (Median Annual Earnings) |  |  |  | - | $\begin{aligned} & \stackrel{\circ}{0} \\ & \stackrel{\text { O}}{\sim} \\ & \text { din } \end{aligned}$ |  | $\begin{gathered} \text { s o } \\ \text { NO } \\ \text { İ } \\ \text { No } \end{gathered}$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Business Operations Specialists |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Project Management Specialists and Business Operations Specialists, All Other $(\$ 80,174)$ | \$22.89 | \$38.55 | None | 43,833 | 45,869 | 2,036 | 4.6\% | 17,831 | 49.3\% | 86.8 | 18\% | 6\% | 294 |
| Market Research Analysts and Marketing Specialists (\$70,782) | \$19.10 | \$34.03 | None | 15,866 | 17,422 | 1,556 | 9.8\% | 7,827 | 50.2\% | 88.6 | 10\% | 3\% | 4,929 |
| Human Resources <br> Specialists $(\$ 63,554)$ | \$19.49 | \$30.55 | None | 18,299 | 19,354 | 1,055 | 5.8\% | 7,824 | 82.7\% | 83.8 | 13\% | 4\% | 873 |
| Buyers and Purchasing <br> Agents (\$71,722) | \$19.84 | \$34.48 | Moderateterm on-thejob training | 12,728 | 12,872 | 144 | 1.1\% | 4,739 | 48.4\% | 93.4 | 22\% | 7\% | 1,650 |
| Compliance Officers $(\$ 72,874)$ | \$20.12 | \$35.04 | Moderateterm on-thejob training | 8,046 | 8,418 | 373 | 4.6\% | 2,939 | 39.2\% | 86.1 | 21\% | 6\% | 330 |
| Logisticians (\$72,897) | \$21.03 | \$35.05 | None | 6,419 | 6,761 | 342 | 5.3\% | 2,598 | 39.5\% | 82.1 | 17\% | 4\% | 1,232 |
| Cost Estimators (\$64,538) | \$20.26 | \$31.03 | Moderateterm on-thejob training | 6,122 | 6,315 | 193 | 3.1\% | 2,303 | 60.3\% | 96.5 | 25\% | 14\% | 35,818 |
| Fundraisers (\$61,383) | \$17.78 | \$29.51 | None | 1,651 | 1,754 | 104 | 6.3\% | 741 | 51.9\% | 85.8 | 16\% | 9\% | 0 |
| Financial Specialists |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Accountants and Auditors (\$77,044) | \$24.04 | \$37.04 | None | 45,304 | 47,465 | 2,161 | 4.8\% | 17,574 | 46.7\% | 93.1 | 18\% | 8\% | 11,753 |
| Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other (\$80,392) | \$23.66 | \$38.65 | Moderateterm on-thejob training | 18,841 | 19,906 | 1,065 | 5.7\% | 6,838 | 34.4\% | 89.0 | 13\% | 4\% | 6,572 |
| Loan Officers (\$73,759) | \$16.20 | \$35.46 | Moderateterm on-thejob training | 9,316 | 9,631 | 315 | 3.4\% | 3,118 | 25.9\% | 91.7 | 15\% | 3\% | 6,139 |
| Personal Financial <br> Advisors $\mathbf{( \$ 8 4 , 1 0 1 )}$ | \$18.81 | \$40.43 | Long-term on-the-job training | 7,788 | 8,540 | 752 | 9.7\% | 3,113 | 19.4\% | 89.4 | 19\% | 11\% | 6,163 |
| Insurance Underwriters (\$63,048) | \$21.03 | \$30.31 | Moderateterm on-thejob training | 4,525 | 4,700 | 174 | 3.9\% | 1,524 | 30.2\% | 95.0 | 17\% | 3\% | 324 |
| Credit Analysts (\$71,282) | \$21.16 | \$34.27 | None | 3,559 | 3,646 | 88 | 2.5\% | 1,227 | 31.9\% | 92.2 | 12\% | 2\% | 17,381 |
| Financial Examiners $(\$ 87,693)$ | \$25.01 | \$42.16 | Long-term on-the-job training | 2,498 | 2,653 | 156 | 6.2\% | 844 | 24.2\% | 89.8 | 18\% | 3\% | 11,624 |
| Budget Analysts (\$76,445) | \$23.18 | \$36.75 | None | 1,383 | 1,443 | 60 | 4.4\% | 483 | 35.3\% | 91.7 | 18\% | 5\% | 17,503 |
| Tax Examiners and Collectors, and Revenue Agents (\$83,854) | \$24.21 | \$40.31 | Moderateterm on-thejob training | 336 | 335 | (1) | (0.2\%) | 110 | 26.8\% | 92.5 | 27\% | 8\% | 11,624 |

## Bachelor's Degree

| Description (Median Annual Earnings) |  | $\begin{array}{r} \text { 응 } \\ \text { 은 } \\ \text { 든 } \\ \text { 응 른 } \\ \text { 을 오 } \end{array}$ |  | $\frac{\stackrel{\circ}{\circ}}{\stackrel{\circ}{\text { - }}}$ | $\frac{\stackrel{\circ}{0}}{\stackrel{\circ}{8}}$ |  |  |  |  | $\begin{aligned} & \text { 읗 } \\ & \text { 응 } \\ & \text { 을 } \\ & \hline 18 \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Computer Occupations |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Software Developers and Software Quality Assurance Analysts and Testers $\mathbf{( \$ 1 0 9 , 3 2 9 )}$ | \$32.91 | \$52.56 | None | 54,374 | 59,789 | 5,415 | 10.0\% | 20,505 | 35.1\% | 80.2 | 11\% | 2\% | 10,108 |
| Computer Systems <br> Analysts (\$93,881) | \$27.47 | \$45.14 | None | 20,463 | 21,955 | 1,492 | 7.3\% | 7,109 | 36.5\% | 81.7 | 15\% | $3 \%$ | 11,849 |
| Computer Occupations, All Other $(\$ 93,222)$ | \$21.72 | \$44.82 | Moderateterm on-thejob training | 12,553 | 13,338 | 785 | 6.3\% | 4,396 | 38.0\% | 85.5 | 14\% | 3\% | 16,566 |
| Network and Computer Systems Administrators $(\$ 88,429)$ | \$27.88 | \$42.51 | None | 12,843 | 13,499 | 655 | 5.1\% | 3,819 | 36.0\% | 87.2 | 12\% | 2\% | 9,771 |
| Computer Programmers $(\$ 83,416)$ | \$25.65 | \$40.10 | None | 9,252 | 9,391 | 139 | 1.5\% | 2,433 | 49.3\% | 83.3 | 14\% | $3 \%$ | 2,916 |
| Database Administrators and Architects $\mathbf{( \$ 1 0 1 , 3 0 0 )}$ | \$29.73 | \$48.70 | None | 4,960 | 5,250 | 290 | 5.8\% | 1,611 | 35.8\% | 88.1 | 16\% | 3\% | 9,645 |
| Mathematical Science Occupations |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Operations Research Analysts $(\$ 84,225)$ | \$22.33 | \$40.49 | None | 4,454 | 4,893 | 440 | 9.9\% | 1,644 | 30.0\% | 91.2 | 19\% | 4\% | 4,300 |
| Data Scientists and Mathematical Science Occupations, All Other (\$94,110) | \$31.21 | \$45.25 | None | 898 | 1,015 | 117 | 13.0\% | 445 | 44.0\% | 83.4 | 11\% | 4\% | 2,633 |
| Actuaries (\$107,194) | \$37.12 | \$51.54 | Long-term on-the-job training | 553 | 613 | 60 | 10.9\% | 187 | 20.4\% | 75.0 | 10\% | Insf. <br> Data | 530 |
| Architects, Surveyors, and Cartographers |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Architects, Except Landscape and Naval $(\$ 85,519)$ | \$18.58 | \$41.11 | Internship/ residency | 4,462 | 4,692 | 230 | 5.2\% | 1,477 | 30.7\% | 76.6 | 18\% | 9\% | 502 |
| Surveyors (\$60,950) | \$17.17 | \$29.30 | Internship/ residency | 1,009 | 1,060 | 51 | 5.0\% | 360 | 39.8\% | 95.8 | 17\% | 7\% | 0 |
| Cartographers and Photogrammetrists $(\$ 69,286)$ | \$21.90 | \$33.31 | None | 310 | 323 | 13 | 4.1\% | 108 | 35.2\% | 94.2 | 17\% | 5\% | 384 |



## Bachelor's Degree

| Description (Median Annual Earnings) |  |  |  | ¢ | $\frac{\stackrel{\circ}{\circ}}{\stackrel{0}{\mathrm{O}}}$ | $\begin{aligned} & \text { む } \\ & \text { 흔 } \\ & \text { İ } \\ & \text { 응 } \end{aligned}$ | $\begin{aligned} & \text { do } \\ & \text { T } \\ & \text { 응 } \\ & \text { No } \end{aligned}$ |  |  | $\begin{aligned} & \text { 읗 } \\ & \text { 흥․ } \\ & \text { 울을 } \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Engineers |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Industrial Engineers $(\$ 96,957)$ | \$31.10 | \$46.61 | None | 7,581 | 7,978 | 398 | 5.2\% | 2,309 | 26.5\% | 92.0 | 25\% | 6\% | 1,126 |
| Civil Engineers (\$84,633) | \$25.53 | \$40.69 | None | 6,592 | 6,894 | 302 | 4.6\% | 2,156 | 36.1\% | 81.7 | 17\% | 9\% | 1,513 |
| Mechanical Engineers (\$94,368) | \$30.24 | \$45.37 | None | 6,286 | 6,542 | 256 | 4.1\% | 1,730 | 29.8\% | 83.4 | 20\% | 6\% | 3,839 |
| Electrical Engineers $(\$ 102,614)$ | \$31.95 | \$49.33 | None | 4,476 | 4,688 | 212 | 4.7\% | 1,327 | 26.8\% | 84.8 | 23\% | 6\% | 3,804 |
| Electronics Engineers, Except Computer $(\$ 120,006)$ | \$35.48 | \$57.70 | None | 4,924 | 5,021 | 97 | 2.0\% | 1,321 | 24.8\% | 85.4 | $24 \%$ | 5\% | 3,947 |
| Engineers, All Other $(\$ 102,650)$ | \$29.77 | \$49.35 | None | 3,580 | 3,725 | 146 | 4.1\% | 1,032 | 27.3\% | 88.2 | 22\% | 9\% | 1,645 |
| Aerospace Engineers $(\$ 129,161)$ | \$37.75 | \$62.10 | None | 3,243 | 3,331 | 87 | 2.7\% | 830 | 19.5\% | 77.2 | 27\% | 6\% | 382 |
| Computer Hardware Engineers (\$120,193) | \$39.96 | \$57.79 | None | 1,679 | 1,764 | 86 | 5.1\% | 558 | 34.6\% | 83.1 | 14\% | 2\% | 1,000 |
| Petroleum Engineers (\$191,866) | \$59.13 | \$92.24 | None | 1,949 | 1,988 | 39 | 2.0\% | 529 | 32.4\% | 82.0 | 19\% | 5\% | 0 |
| Chemical Engineers $(\$ 143,367)$ | \$36.54 | \$68.93 | None | 1,098 | 1,134 | 36 | 3.2\% | 287 | 27.6\% | 91.7 | 19\% | 6\% | 0 |
| Health and Safety <br> Engineers, Except Mining <br> Safety Engineers and <br> Inspectors $(\$ 95,527)$ | \$28.97 | \$45.93 | None | 776 | 807 | 31 | 4.0\% | 222 | 34.4\% | 84.5 | 22\% | 6\% | 100 |
| Environmental Engineers (\$109,828) | \$33.65 | \$52.80 | None | 554 | 607 | 52 | 9.5\% | 207 | 36.0\% | 76.6 | 17\% | 5\% | 100 |
| Materials Engineers $(\$ 94,387)$ | \$29.92 | \$45.38 | None | 601 | 621 | 19 | 3.2\% | 155 | 24.0\% | 87.3 | $24 \%$ | 6\% | 419 |
| Social Scientists and Related Workers |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Biological Scientists, All Other $(\$ 84,399)$ | \$26.04 | \$40.58 | None | 423 | 448 | 26 | 6.1\% | 166 | 35.8\% | 82.2 | 14\% | 4\% | 9,532 |
| Physical Scientists |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Environmental Scientists and Specialists, Including Health $(\$ 74,111)$ | \$19.75 | \$35.63 | None | 1,368 | 1,481 | 113 | 8.3\% | 632 | 46.0\% | 74.6 | 17\% | 5\% | 437 |
| Chemists (\$71,936) | \$21.00 | \$34.58 | None | 792 | 838 | 46 | 5.8\% | 307 | 41.7\% | 87.3 | 17\% | 6\% | 1,008 |
| Physical Scientists, All Other $(\$ 116,270)$ | \$21.57 | \$55.90 | None | 534 | 553 | 19 | 3.5\% | 174 | 27.4\% | 76.4 | 16\% | 10\% | 25 |
| Social Scientists and Related Workers |  |  |  |  |  |  |  |  |  |  |  |  |  |

Social Scientists and
Related Workers, All
Other (\$85,577)
$\$ 28.50$ \$ 1.14
$\begin{array}{llllllllllll}\text { None } & 264 & 292 & 28 & 10.5 \% & 136 & 37.6 \% & 86.6 & 12 \% & 7 \% & 313\end{array}$

Life, Physical, and Social Science Technicians

| Biological Technicians $(\$ 64,401)$ | \$16.65 | \$30.96 | None | 2,336 | 2,425 | 89 | 3.8\% | 1,058 | 50.9\% | 90.4 | 10\% | 3\% | 18 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Forensic Science <br> Technicians $(\$ 56,150)$ | \$17.56 | \$27.00 | Moderateterm on-thejob training | 436 | 460 | 24 | 5.5\% | 228 | 39.6\% | 94.2 | 15\% | 4\% | 19 |

## Bachelor's Degree

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Description (Median Annual Earnings) |  |  |  | 응 | - |  |  |  |  |  |  |  |  |

Occupational Health and Safety Specialists and Technicians

| Occupational Health and Safety Specialists $(\$ 69,876)$ | \$16.42 | \$33.59 | None | 2,755 | 2,878 | 123 | 4.5\% | 706 | 31.8\% | 92.5 | 20\% | 6\% | 920 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Counselors, Social Workers, and Other Community and Social Service Specialists |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Probation Officers and |  |  | Short-term |  |  |  |  |  |  |  |  |  |  |
| Correctional Treatment | \$19.36 | \$23.26 | on-the-job | 1,930 | 1,969 | 39 | 2.0\% | 632 | 23.5\% | 78.2 | 15\% | 3\% | 5,463 |
| Specialists (\$48,385) |  |  | training |  |  |  |  |  |  |  |  |  |  |

Preschool, Elementary, Middle, Secondary, and Special Education Teachers

| Elementary School <br> Teachers, Except Special <br> Education $\mathbf{( \$ 5 8 , 0 3 5 )}$ | \$24.10 | \$27.90 | None | 36,019 | 37,540 | 1,521 | 4.2\% | 11,609 | 22.9\% | 82.3 | 16\% | 4\% | 1,717 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Secondary School <br> Teachers, Except Special and Career/Technical Education $(\$ 58,525)$ | \$22.65 | \$28.14 | None | 27,840 | 29,026 | 1,186 | 4.3\% | 8,649 | 22.1\% | 84.9 | 16\% | 5\% | 5,174 |
| Middle School Teachers, Except Special and Career/Technical Education $(\$ 58,035)$ | \$23.58 | \$27.90 | None | 16,329 | 17,002 | 673 | 4.1\% | 5,239 | 22.8\% | 84.5 | 16\% | 4\% | 2,096 |
| Kindergarten Teachers, Except Special Education $(\$ 56,844)$ | \$21.51 | \$27.33 | None | 4,138 | 4,293 | 155 | 3.8\% | 1,712 | 33.0\% | 82.5 | 12\% | 3\% | 2,908 |
| Special Education Teachers, Kindergarten and Elementary School $(\$ 58,421)$ | \$24.59 | \$28.09 | None | 4,171 | 4,345 | 174 | 4.2\% | 1,375 | 23.1\% | 83.7 | 17\% | 4\% | 625 |
| Special Education <br> Teachers, Secondary School (\$57,423) | \$21.61 | \$27.61 | None | 3,712 | 3,857 | 144 | 3.9\% | 1,209 | 23.2\% | 81.8 | 17\% | 4\% | 625 |
| Special Education <br> Teachers, Middle School $(\$ 57,885)$ | \$24.38 | \$27.83 | None | 1,832 | 1,906 | 75 | 4.1\% | 602 | 22.6\% | 84.2 | 17\% | 4\% | 625 |
| Art and Design Work |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Commercial and Industrial Designers (\$64,755) | \$21.79 | \$31.13 | None | 526 | 546 | 20 | 3.8\% | 209 | 46.1\% | 81.3 | 16\% | 6\% | 2,003 |
| Media and Communi | tion W | kers |  |  |  |  |  |  |  |  |  |  |  |
| Public Relations Specialists $\mathbf{( \$ 5 6 , 8 2 5 )}$ | \$16.55 | \$27.32 | None | 9,514 | 9,883 | 368 | 3.9\% | 3,862 | 52.7\% | 90.0 | 14\% | 6\% | 2,985 |
| Healthcare Diagnosing or Treating Practitioners |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Registered Nurses $(\$ 75,604)$ | \$26.50 | \$36.35 | None | 63,844 | 66,920 | 3,076 | 4.8\% | 16,230 | 26.5\% | 85.3 | 19\% | 5\% | 32,806 |
| Other Healthcare Practitioners and Technical Occupations |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Athletic Trainers $(\$ 58,446)$ | \$20.96 | \$28.10 | None | 739 | 796 | 56 | 7.6\% | 223 | 27.3\% | 91.7 | 13\% | 5\% | 960 |

## Bachelor's Degree



Sales Representatives, Services

| Securities, Commodities, and Financial Services Sales Agents $\mathbf{( \$ 5 9 , 4 4 9 )}$ | \$17.47 | \$28.58 | Moderateterm on-thejob training | 17,404 | 18,578 | 1,175 | 6.7\% | 7,314 | 28.8\% | 92.8 | 13\% | 4\% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Sales Representatives, Wholesale and Manufacturing
Sales Representatives,
Wholesale and
Moderate$\begin{array}{lllllllllll}\text { term on-the- } & 8,392 & 8,680 & 288 & 3.4 \% & 3,412 & 38.1 \% & 93.5 & 19 \% & 6 \% & 294\end{array}$ and Scientific Products $(\$ 75,535)$

## Other Sales and Related Workers




