# The Engineering Income and Solary Survey 



Learn the Value of Engineers in Today's Market

# The Engineering Income and Salary Survey Standard Report 

Trends Analysis, Policies, and Practices

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## Table of Contents

Introduction ..... 1
About the American Society of Civil Engineers ..... 2
About the American Society of Mechanical Engineers ..... 3
Survey Features ..... 4
The www.ASCE.org/salaries and ASME.enetrix.com Web Sites ..... 4
Complimentary Report ..... 4
Interactive Custom Reports ..... 4
Standard Reports ..... 4
Guide to Finding and Using the Data in this Report ..... 5
Survey Definitions ..... 5
Methodology ..... 6
Interpreting the Data .....  6
Executive Summary ..... 7
Income Trends ..... 9
Length of Experience ..... 9
Level of Education ..... 10
Level of Education and Length of Experience ..... 12
Professional Responsibility. ..... 14
Major Branch of Engineering ..... 15
Job Function ..... 18
Industry or Service of Employer ..... 20
Licensing and Certification Status ..... 22
Supervisory Responsibility .....  24
Sub-Regions ..... 26
Metropolitan Area ..... 29
Gender ..... 34
Ethnic Origin ..... 37
Organization Size ..... 39
Policies and Practices ..... 40
Employment Status ..... 40
Layoffs/Downsizing ..... 41
Change in Base Salary ..... 43
Promotions ..... 44
Contract/Temporary/Consulting Employment ..... 44
Compensatory Time Off for Salaried/Exempt Engineers ..... 44
Registration ..... 46
Employer-Sponsored Benefit Plans ..... 47
Appendix: Survey Instrument ..... 48

## Introduction

The following report represents the findings of the national compensation survey conducted by the American Society of Civil Engineers (ASCE) and the American Society of Mechanical Engineers (ASME). This is the fifth year that ASCE and ASME have partnered to conduct a joint engineering salary survey.

These surveys have proved to be of considerable value to engineering firms, industrial organizations, national engineering organizations, local and state governmental agencies, and the departments of the federal government, as well as, the United States Congress.

Online survey participants were asked to report their current annual base salary, plus additional cash income from that employer (excluding overtime pay) for the preceding calendar year. Income from secondary or parttime employment was excluded. Readers should note that the information provided in this document is based on response data compiled for the 12 -month period of April 1, 2011, to March 31, 2012. The online version of the salary survey includes the most recent salary information available. All subscribers are encouraged to use the online database to run and view survey reports that include the most current data survey submissions.
enetrix, A Division of Gallup, Inc., a leader in Internet-based survey technology, assisted with the design of the survey instrument and directed the online survey collection and reporting tools. ASCE and ASME acknowledge and thank all respondents participating in this survey.

# About the American Society of Civil Engineers <br> ASCE <br> AMERICAN SOCIETY OF CIVIL ENGINEERS 

Founded in 1852, the American Society of Civil Engineers is the world's preeminent civil engineering organization and the U.S.'s oldest engineering society. ASCE is home to more than 140,000 members in the civil engineering profession, positioning them to be global leaders to build a better quality of life.

## Mission

Our mission is to help you succeed with yours, by providing essential value to our members, their careers, our partners and the public by developing leadership, advancing technology, advocating lifelong learning, and promoting the profession.

## Other Resources

- Organizational resources for getting your company involved www.asce.org/orgresources
- General information about ASCE membership www.asce.org/newmembers
- Information about member benefits visit www.asce.org/benefits
- Career resources www.asce.org/careers
- Online jobs www.asce.org/jobs
- Training for individual or organizations www.asce.org/training
- Access to the world's largest publisher of civil engineering related materials www.pubs.asce.org
- Local activities and programs www.asce.org/local
- Political activities www.asce.org/govrel
- Technical information from any of ASCE's seven Institutes www.asce.org/institutes

General information about ASCE is available at www.asce.org.

# About the American Society of Mechanical Engineers <br>  <br> SETTING THE STANDARD 

ASME is a not-for-profit membership organization that enables collaboration, knowledge sharing, career enrichment, and skills development across all engineering disciplines, toward a goal of helping the global engineering community develop solutions to benefit lives and livelihoods. Founded in 1880 by a small group of leading industrialists, ASME has grown through the decades to include more than 120,000 members in over 150 countries worldwide.

## Vision

ASME aims to be the essential resource for mechanical engineers and other technical professionals throughout the world for solutions that benefit humankind.

## Mission Statement

To serve diverse global communities by advancing, disseminating and applying engineering knowledge for improving the quality of life; and communicating the excitement of engineering.

## Core Values

In performing its mission, ASME adheres to these core values:

- Embrace integrity and ethical conduct
- Embrace diversity and respect the dignity and culture of all people
- Nurture and treasure the environment and our natural and man-made resources
- Facilitate the development, dissemination and application of engineering knowledge
- Promote the benefits of continuing education and of engineering education
- Respect and document engineering history while continually embracing change
- Promote the technical and societal contribution of engineers


## ASME Credo

Setting the Standard...
... in Engineering Excellence
... in Knowledge, Community \& Advocacy
... for the benefit of humanity
For more information, please visit: www.asme.org.

## Survey Features

## The www.ASCE.org/salaries and ASME.enetrix.com Web Sites

These interactive survey sites allow engineers to participate and purchase reports online. The online database is continuously updated, and the information found online is "evergreen". The data included in this printed report represents a point-in-time, taken as of April 1, 2012. Therefore, by going online you can access the most current salary information available.

## Complimentary Report

All participants of the survey are given access to an online complimentary survey report. This report contains limited data and provides the engineer with salary data for their professional level and geographic region.

## Interactive Custom Reports

The interactive online custom reports allow users to view data as it is updated throughout the year. The custom report enables users to select up to nine demographic and professional criteria for their income data analysis. Subscriptions are based on the number of report runs allowed and are tailored to both individual and corporate needs. The custom reports are priced by either ten report runs or unlimited report runs for one year. The unlimited subscription has an additional option for an accompanying printed report, and also grants access to downloadable standard reports, policies and practices, trend analysis, employer-sponsored benefit information, and much more.

The custom reports also allow users to limit their report data to a geographic area based on a zip code. Each zip code is assigned a metropolitan area, consolidated metropolitan area, state, sub-region, and region as defined by enetrix, A Division of Gallup, Inc. The statistical areas (i.e., consolidated metropolitan area and metropolitan area) are based on population statistics as compiled via the most recent U.S. Census.

As an example, a respondent reporting from zip code 60606 would be included in the Chicago metropolitan area. The data would also be included in the Chicago-Gary-Kenosha, IL-IN-WI consolidated metropolitan area. Finally, the data would also be included in Illinois, the Great Lake States sub-region, and the North Central region.

## Standard Reports

Preselected data cuts
Users who purchase an unlimited online subscription also receive access to reports with preselected data cuts. These reports are formatted in HTML and provide statistics for all demographic cuts by engineering level. In addition, a downloadable PDF version of these standard reports is available.

Trends Analysis, Policies, and Practices
Users who purchase an unlimited online subscription also receive access to reports on standard data cuts, trends analysis, policies and practices, and benefits information. These reports are presented in this printed report. All of the reports included in this printed report are also accessible online at either of the association Web sites as downloadable PDF documents for those users with an unlimited subscription.

## Guide to Finding and Using the Data in this Report

The information in this year's study is presented in three sections, plus the online custom and standard reports:

- Executive Summary: highlights overall salary and income statistics;
- Income Trends: presents total compensation data for each engineering level, plus various data cuts;
- Policies and Practices: highlights trends in prevalence for a number of top areas, such as employment status, changes in base salary, promotion, compensatory time off, and others;
- Online Custom Report: allows you to produce calculations on a combination of all the scope factors solicited in the survey; and
- Online Standard Reports: provides an income and salary report that uses pre-programmed data cuts based on the scope factors solicited in the survey.


## Survey Definitions

The following defines the terms used in all of the income data tables:

- Income: constitutes the individual's current annual base salary from the primary employer, plus additional cash income from the individual's primary job (including fees, bonuses, commissions, but excludes overtime pay and income from secondary or part-time employment);
- Bonus: additional cash income from the individual's primary job (including fees, bonuses, commissions, but excludes overtime pay and income from secondary or part-time employment) during the preceding 12-month period;
- Number Reported: the usable number of responses from which the statistics were derived for the data line in which that specific number appears;
- Mean: indicates that the annual compensation of all individuals in a group were added together and the total was divided by the number of individuals involved. This measure of central tendency can be unduly influenced by a few very high or very low data points. While the average permits certain statistical calculations, greater consideration should be given to the median for comparison purposes, especially when the sample size is small;
- Median: the value of the middle item (or the average of the two middle items) of a group of values when they are arrayed from the highest to the lowest. The advantage of the median is that it provides a measure of central tendency that is not unduly influenced by a few very high or very low data points;
- 10th Percentile: a measure of dispersion. When all of the incomes are arrayed from the highest to the lowest, the 10 th percentile is that income below which $10 \%$ of the incomes fall;
- 25th Percentile: a measure of dispersion. When all of the incomes are arrayed from the highest to the lowest, the 25 th percentile is that income below which $25 \%$ of the incomes fall;
- 75th Percentile: a measure of dispersion. When all of the incomes are arrayed from the highest to the lowest, the 75th percentile is that income below which $75 \%$ of the incomes fall; and
- 90th Percentile: a measure of dispersion. When all of the incomes are arrayed from the highest to the lowest, the 90 th percentile is that income below which $90 \%$ of the incomes fall.


## Methodology

A total of 13,207 online questionnaires were completed between April 1, 2011, and March 31, 2012. Data was eliminated from the survey reports if the respondent was a full-time student, unemployed, was in a job-share position, or retired at the time of the survey. In some cases, pay data was not provided, insufficient, or obviously erroneous. These responses were also eliminated when calculating income statistics. This reduced the sample to 12,720 for this purpose.

Not every participant provided all of the information requested. Questionnaires were included in the study if they provided sufficient information to be included in at least one table of the report.

Anomalies may occur in the income statistics report for a few of the smaller subgroups, if one or more survey participants reported incomes considerably different from the usual income of individuals with a common demographic characteristic. Regretfully, it is not possible to identify and delete all such responses from the survey. Fortunately, these cases have no appreciable effect upon the medians or quartiles reported for major subgroups.

Data for subgroups of extremely small size lack statistical validity. Data was eliminated for any line of data where the sample size was less than 10 .

## Interpreting the Data

Despite the fact that there was good participation, data for all pertinent variables should be considered simultaneously when the data is interpreted - especially where the sample size of a subgroup is extremely small.

Some respondents may have reported incomes considerably higher or lower than those of the remaining individuals in a subgroup. This would unduly influence the mean for some small subgroups. Therefore, wherever the sample is small and there is a considerable difference between the average and median in a line of data, greater weight should usually be given to the median than to the average.

Sometimes, the information reported in a line of data may appear to be inconsistent with that of related data lines. In such cases, the relative sample size of each line of data should be considered. Usually, more confidence should be placed in the line of data having the larger sample size. However, the "rule of reason" should govern.

As the definitions imply, one-half of respondents are paid more than the median, one-quarter more than the 75th percentile, and $10 \%$ more than the 90 th percentile. Naturally, length of service and individual capability play a large part in determining an individual's specific income level. Further, as a matter of policy, many employers deliberately set pay rates above the average to attract and retain the best possible employees. Therefore, the fact that an individual's salary is above some otherwise appropriate statistic need not be a matter of concern.

## Executive Summary

As of March 31, 2012, the average total annual income of respondents in the survey was $\$ 103,497$ (including salaries, fees, cash bonuses, commissions, and profit received from the respondents' primary jobs during the preceding 12 -month period-but specifically excluding overtime pay).

Base salaries and incomes vary widely. As Exhibit 1 shows, survey respondents at or below the 10th percentile earn a base salary under $\$ 56,000$, while those at or above the 90 th percentile earn $\$ 144,000$ or more. Exhibit 2 shows that survey respondents at or below the 10th percentile earn a total annual income under $\$ 58,000$, while those at or above the 90th percentile earn $\$ 160,000$ or more.

Both Exhibits 1 and 2 indicate an increase in median base salary and total annual income from 2011 to 2012.

EXHIBIT 1: BASE SALARY STATISTICS
(ALL RESPONDENTS)

|  | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 2}$ | \% Change in Base <br> Salary from 2011 |
| ---: | ---: | ---: | ---: |
| Number of Responses | 11,388 | 12,720 |  |
| Average | $\$ 92,726$ | $\$ 95,603$ | $3.1 \%$ |
| Percentile 10 | $\$ 55,000$ | $\$ 56,000$ | $1.8 \%$ |
| Percentile 25 | $\$ 66,000$ | $\$ 68,640$ | $4.0 \%$ |
| Median | $\$ 86,000$ | $\$ 90,000$ | $4.7 \%$ |
| Percentile 75 | $\$ 111,200$ | $\$ 116,000$ | $4.3 \%$ |
| Percentile 90 | $\$ 140,000$ | $\$ 144,000$ | $2.9 \%$ |

EXHIBIT 2: TOTAL ANNUAL INCOME STATISTICS
(ALL RESPONDENTS)

|  | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 2}$ | \% Change in Total <br> Income from 2011 |
| ---: | ---: | ---: | ---: |
| Number of Responses | 11,388 | 12,720 |  |
| Average | $\$ 99,738$ | $\$ 103,497$ | $3.8 \%$ |
| Percentile 10 | $\$ 56,700$ | $\$ 58,000$ | $2.3 \%$ |
| Percentile 25 | $\$ 68,500$ | $\$ 71,000$ | $3.6 \%$ |
| Median | $\$ 90,000$ | $\$ 94,117$ | $4.6 \%$ |
| Percentile 75 | $\$ 120,000$ | $\$ 124,523$ | $3.8 \%$ |
| Percentile 90 | $\$ 154,000$ | $\$ 160,000$ | $3.9 \%$ |

A matched sample comparison is an excellent indicator of year-to-year changes in compensation as presented in Exhibits 3 and 4. These tables compare the compensation data of the 3,551 respondents who participated in both this and last years' survey. As indicated by these tables, the median total annual income increased $4.4 \%$. Per Exhibit 4, a matched sample comparison of the last three years of survey data is presented. The percent change in median income from 2010 through 2012 is $8.0 \%$.

EXHIBIT 3: TOTAL ANNUAL INCOME STATISTICS
(MATCHED SAMPLE) 2011-2012

|  | 2011 | \% Change in Total <br> Income from 2011 |  |
| ---: | ---: | ---: | ---: |
| Number of Responses | 3,551 | 3,551 |  |
| Average | $\$ 99,441$ | $\$ 104,473$ | $5.1 \%$ |
| Percentile 10 | $\$ 57,800$ | $\$ 61,110$ | $5.7 \%$ |
| Percentile 25 | $\$ 70,000$ | $\$ 73,711$ | $5.3 \%$ |
| Median | $\$ 91,000$ | $\$ 95,000$ | $4.4 \%$ |
| Percentile 75 | $\$ 119,850$ | $\$ 125,000$ | $4.3 \%$ |
| $\$ 150,000$ | $\$ 158,000$ | $5.3 \%$ |  |

EXHIBIT 4: TOTAL ANNUAL INCOME STATISTICS
(MATCHED SAMPLE) 2010-2012

|  | 2010 | 2011 | 2012 | \% Change in Total Income from 2011 |
| :---: | :---: | :---: | :---: | :---: |
| Number of Responses | 1,832 | 1,832 | 1,832 |  |
| Average | \$100,603 | \$103,474 | \$108,558 | 7.9\% |
| Percentile 10 | \$59,940 | \$62,000 | \$65,000 | 8.4\% |
| Percentile 25 | \$72,050 | \$75,000 | \$78,450 | 8.9\% |
| Median | \$92,576 | \$95,213 | \$100,000 | 8.0\% |
| Percentile 75 | \$119,000 | \$122,000 | \$129,265 | 8.6\% |
| Percentile 90 | \$150,600 | \$153,000 | \$160,000 | 6.2\% |

EXHIBIT 5: CHANGE IN MEDIAN TOTAL ANNUAL INCOME BY SUBREGION (MATCHED SAMPLE) 2011-2012

|  |  | 2011 | 2012 | \% Change in Total Income from 2011 |
| :---: | :---: | :---: | :---: | :---: |
|  | \# of Respondents | Median | Median |  |
| New England | 194 | \$87,150 | \$89,800 | 3.0\% |
| Middle Atlantic | 530 | \$91,000 | \$95,715 | 5.2\% |
| Middle Southeast | 387 | \$91,500 | \$95,000 | 3.8\% |
| Lower Southeast | 240 | \$99,110 | \$100,000 | 0.9\% |
| Great Lakes | 601 | \$84,000 | \$88,000 | 4.8\% |
| Central Plains | 186 | \$88,037 | \$92,700 | 5.3\% |
| Upper Mountain | 58 | \$79,000 | \$85,929 | 8.8\% |
| South Central | 449 | \$93,500 | \$101,000 | 8.0\% |
| Lower Mountain | 285 | \$91,500 | \$93,000 | 1.6\% |
| Pacific Northwest | 194 | \$90,500 | \$93,000 | 2.8\% |
| Pacific Southwest | 414 | \$102,858 | \$108,403 | 5.4\% |

## Income Trends

The following income trends section provides summary data for various scope factors. This data is representative of the data that was submitted between April 1, 2011, and March 31, 2012. During this time a total of 13,207 respondents completed the survey (of which 12,720 responses were used for this report). The most up-to-date income and salary statistics are available online.

Income and salary statistics are reported only where there are a minimum of 10 respondents for that row of data.

## Length of Experience

Median income shows a consistent increase with increased engineering experience. Per Exhibit 6, the median income of full-time salaried respondents increases regularly from $\$ 55,000$ for those with under one year of experience to $\$ 127,800$ for those with 25 years of experience or more. This is a $132.4 \%$ spread.

Earnings differences increase with length of experience, greatest in the most experienced groups. The interquartile range (the middle $50 \%$ ) is the best measure of the income range. For those with under one year experience, the inter-quartile range was $\$ 15,850$ compared to $\$ 53,500$ for those with 25 years of experience or more.

EXHIBIT 6: INCOME (\$) BY LENGTH OF EXPERIENCE

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \# of Responses | Mean | $\begin{aligned} & \text { 10th } \\ & \text { Pctl } \end{aligned}$ | $\begin{aligned} & \text { 25th } \\ & \text { Pctl } \end{aligned}$ | Median | 75th Pctl | $\begin{aligned} & \text { 90th } \\ & \text { Pctl } \end{aligned}$ | \# of Responses | Median |
| Under 1 year | 366 | 56,785 | 41,000 | 48,000 | 55,000 | 63,850 | 74,000 | 366 | 55,000 |
| 1-2 years | 762 | 60,688 | 45,000 | 51,000 | 58,678 | 67,500 | 78,000 | 761 | 58,695 |
| 3-4 years | 1,161 | 67,325 | 50,835 | 56,515 | 64,750 | 74,000 | 87,000 | 1,159 | 64,750 |
| 5-9 years | 2,319 | 78,457 | 57,500 | 65,000 | 75,000 | 87,000 | 102,000 | 2,306 | 75,000 |
| 10-14 years | 1,706 | 95,783 | 67,100 | 78,575 | 91,610 | 108,000 | 129,000 | 1,669 | 91,520 |
| 15-19 years | 1,323 | 111,621 | 75,000 | 88,688 | 106,000 | 127,000 | 155,000 | 1,297 | 106,000 |
| 20-24 years | 1,302 | 123,267 | 80,000 | 95,600 | 116,345 | 140,000 | 176,800 | 1,274 | 116,270 |
| 25 or more years | 3,781 | 136,942 | 87,243 | 104,500 | 127,700 | 158,000 | 200,000 | 3,613 | 127,800 |



## Level of Education

The following table shows graphically median income by level of education attained. As is obvious, increased education in the engineering field results in higher earnings.

Full-time salaried respondents holding doctoral degrees in engineering have a median income of $\$ 116,000$. Those with an M.S. in engineering earn a median of $\$ 95,576$. Finally, those with a B.S. in engineering earn a median income of \$85,900.

Those holding a doctorate in engineering earn a median $35.0 \%$ more than those with a B.S. in engineering.
Full-time salaried survey respondents holding an M.B.A. or an M.B.A. and an M.A. or M.S. have higher median incomes than those holding an M.S. in engineering.

EXHIBIT 8: INCOME (\$) BY LEVEL OF EDUCATION

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \# of Responses | Mean | $\begin{aligned} & \text { 10th } \\ & \text { Pctl } \end{aligned}$ | $\begin{aligned} & \text { 25th } \\ & \text { Pctl } \end{aligned}$ | Median | 75th Pctl | 90th <br> Pctl | \# of Responses | Median |
| Less than BA/BS Degree | 113 | 98,160 | 53,000 | 69,805 | 92,600 | 115,540 | 161,500 | 111 | 92,600 |
| BA Degree | 57 | 93,882 | 53,700 | 60,000 | 76,309 | 109,500 | 163,000 | 56 | 75,805 |
| BS Degree (non-engineering) | 78 | 106,654 | 60,000 | 75,000 | 95,000 | 130,000 | 178,000 | 76 | 95,000 |
| BS Degree (engineering) | 6,798 | 96,452 | 55,000 | 66,000 | 86,000 | 115,000 | 148,500 | 6,670 | 85,900 |
| MA/MS Degree (not MBA or engineering) | 237 | 108,330 | 64,000 | 77,000 | 95,000 | 128,723 | 175,400 | 234 | 95,000 |
| MBA Degree | 570 | 126,681 | 75,000 | 93,630 | 117,000 | 150,000 | 188,500 | 556 | 116,250 |
| MS Degree (engineering) | 3,501 | 106,051 | 60,500 | 73,750 | 96,000 | 127,000 | 161,000 | 3,415 | 95,576 |
| MBA and an MA or MS Degree | 222 | 131,107 | 81,000 | 102,000 | 125,125 | 153,000 | 190,000 | 217 | 125,000 |
| Doctorate (non-engineering) | 37 | 133,639 | 78,000 | 102,000 | 126,500 | 162,000 | 189,000 | 33 | 120,000 |
| Doctorate (engineering) | 996 | 122,127 | 72,000 | 92,000 | 116,364 | 144,500 | 180,000 | 972 | 116,000 |

EXHIBIT 9: INCOME BY LEVEL OF EDUCATION (FULL-TIME SALARIED ONLY)


## Level of Education and Length of Experience

Income by engineering experience versus level of education for three of the largest groups by degree held appears graphically and in tabular form in Exhibits 10 and 11.

The curves by full-time salaried median income for the B.S., M.S., and doctorate in engineering are fairly smooth and follow the expected relationship, with infrequent, minor anomalies.

The spreads of median income for the full-time salaried respondents with B.S., M.S., and doctorate in engineering between under one year of experience and 25 years or more of experience, are $126.6 \%, 125.9 \%$, and $69.0 \%$, respectively.

## EXHIBIT 10: INCOME BY DEGREE EARNED AND LENGTH OF EXPERIENCE (FULL-TIME SALARIED ONLY)



EXHIBIT 11: INCOME (\$) BY LEVEL OF EDUCATION AND LENGTH OF EXPERIENCE


## Professional Responsibility

All survey participants were able to match their level of professional responsibility to one of the engineering grades defined in the Survey Questionnaire (see Appendix).

It should be noted that respondents' self-grading may not always be accurate, despite the detailed guidelines furnished in the survey instrument.

Exhibit 12 reports income by professional responsibility/engineering grade. The graph follows the shape expected, rising from a full-time salaried median income of $\$ 55,000$ for Engineer I to $\$ 150,000$ for Engineer VIII. This is a $172.7 \%$ spread.

EXHIBIT 12: INCOME (\$) BY PROFESSIONAL RESPONSIBILITY

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \# of Responses | Mean | $\begin{aligned} & \text { 10th } \\ & \text { PctI } \end{aligned}$ | $\begin{aligned} & \text { 25th } \\ & \text { PctI } \end{aligned}$ | Median | $\begin{aligned} & \hline \text { 75th } \\ & \text { PctI } \end{aligned}$ | $\begin{aligned} & \text { 90th } \\ & \text { Pctl } \end{aligned}$ | \# of Responses | Median |
| *Licensed Prof. Surveyor | 12 | 97,408 | 60,000 | 67,500 | 78,500 | 120,500 | 165,000 | 10 | 78,500 |
| Engineer Level I | 421 | 55,967 | 42,000 | 48,000 | 55,000 | 61,500 | 69,600 | 421 | 55,000 |
| Engineer Level II | 633 | 61,211 | 46,500 | 52,000 | 59,500 | 68,000 | 78,500 | 631 | 59,500 |
| Engineer Level III | 1,046 | 64,659 | 49,000 | 55,000 | 62,235 | 71,000 | 83,000 | 1,046 | 62,235 |
| Engineer Level IV | 2,367 | 76,974 | 56,500 | 64,000 | 73,000 | 85,300 | 100,000 | 2,362 | 73,000 |
| Engineer Level V | 2,890 | 97,382 | 70,000 | 80,000 | 93,000 | 110,000 | 130,000 | 2,854 | 93,000 |
| Engineer Level VI | 2,595 | 121,060 | 85,000 | 98,500 | 115,000 | 136,000 | 164,000 | 2,532 | 115,000 |
| Engineer Level VII | 1,891 | 142,019 | 91,100 | 110,000 | 133,000 | 166,200 | 202,000 | 1,832 | 133,000 |
| Engineer Level VIII | 862 | 161,001 | 99,000 | 120,000 | 150,000 | 186,000 | 239,000 | 754 | 150,000 |

EXHIBIT 13: INCOME BY LEVEL OF PROFESSIONAL RESPONSIBILITY (FULL-TIME SALARIED ONLY)


## Major Branch of Engineering

The highest full-time salaried median income by major branch of engineering goes to those respondents working in ocean $(\$ 169,000)$. This group is followed by those in cost management $(\$ 129,500)$, petroleum $(\$ 127,043)$, safety $(\$ 125,000)$, minerals and metals $(\$ 121,000)$, fire protection $(\$ 116,000)$, and electrical $(\$ 115,200)$.

At the other end of the full-time salaried median income spectrum are those employed in structural, agricultural, geotechnical, HVAC and refrigeration, civil, and transportation (all between $\$ 84,500$ and $\$ 87,850$ ).

Due to insufficient sample size, income statistics are not reported in Exhibit 14 for the following branches: ceramic, ergonomics, optical, plumbing, and pollution.

EXHIBIT 14: INCOME (\$) BY MAJOR BRANCH OF ENGINEERING

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \# of Responses | Mean | $\begin{aligned} & \text { 10th } \\ & \text { PctI } \end{aligned}$ | $\begin{aligned} & \hline \text { 25th } \\ & \text { Pctl } \end{aligned}$ | Median | $\begin{aligned} & \hline \text { 75th } \\ & \text { Pctl } \end{aligned}$ | $\begin{aligned} & \text { 90th } \\ & \text { PctI } \end{aligned}$ | \# of Responses | Median |
| Aeronautical/aerospace/astronautical | 376 | 111,878 | 62,000 | 83,665 | 110,000 | 135,713 | 159,900 | 370 | 109,652 |
| Agricultural | 35 | 88,319 | 50,000 | 67,880 | 85,000 | 105,000 | 133,000 | 35 | 85,000 |
| Architectural | 37 | 114,741 | 50,300 | 62,000 | 97,500 | 142,000 | 210,000 | 34 | 95,750 |
| Biomechanical/biomedical | 131 | 107,695 | 52,000 | 75,000 | 101,000 | 130,248 | 172,000 | 125 | 101,000 |
| Chemical | 122 | 124,043 | 79,000 | 90,000 | 113,825 | 150,000 | 175,000 | 121 | 113,750 |
| Civil | 3,228 | 96,015 | 55,500 | 67,293 | 87,107 | 113,999 | 147,100 | 3,155 | 86,630 |
| Coastal | 46 | 97,654 | 52,000 | 63,345 | 89,050 | 115,000 | 168,000 | 46 | 89,050 |
| Computer | 21 | 125,796 | 84,000 | 96,000 | 111,000 | 138,900 | 189,000 | 21 | 111,000 |
| Control systems | 63 | 110,790 | 56,000 | 73,056 | 102,000 | 137,480 | 187,000 | 61 | 102,000 |
| Corrosion | 13 | 113,834 | 50,000 | 80,000 | 105,773 | 145,600 | 161,724 | 13 | 105,773 |
| Cost management | 35 | 135,493 | 73,200 | 90,000 | 130,000 | 182,000 | 205,714 | 34 | 129,500 |
| Electrical | 36 | 116,606 | 62,978 | 75,547 | 118,500 | 148,500 | 178,366 | 34 | 115,200 |
| Electronics | 61 | 117,126 | 59,000 | 71,500 | 105,000 | 142,000 | 200,000 | 61 | 105,000 |
| Environmental | 625 | 104,457 | 54,500 | 67,000 | 91,321 | 127,500 | 166,000 | 614 | 90,500 |
| Facilities | 174 | 121,040 | 72,000 | 91,500 | 111,620 | 140,472 | 185,450 | 171 | 111,000 |
| Fire protection | 24 | 114,534 | 60,000 | 74,200 | 107,000 | 157,250 | 184,000 | 23 | 116,000 |
| Forensic | 66 | 132,798 | 73,745 | 92,000 | 109,140 | 155,000 | 223,000 | 54 | 104,000 |
| Geotechnical | 646 | 96,808 | 56,000 | 67,947 | 85,500 | 111,000 | 154,500 | 631 | 85,065 |
| Health care facility | 15 | 87,732 | 50,000 | 55,000 | 99,000 | 110,000 | 118,027 | 15 | 99,000 |
| HVAC and refrigeration | 122 | 93,136 | 52,500 | 65,000 | 86,027 | 111,000 | 149,000 | 121 | 85,554 |
| Industrial | 105 | 103,438 | 56,300 | 65,400 | 91,500 | 128,000 | 168,725 | 102 | 91,500 |
| Manufacturing | 516 | 97,770 | 56,828 | 70,000 | 91,000 | 116,000 | 146,000 | 512 | 91,000 |
| Marine | 68 | 120,509 | 60,000 | 71,250 | 112,000 | 152,500 | 201,000 | 68 | 112,000 |
| Materials | 74 | 118,344 | 66,986 | 80,000 | 115,763 | 145,000 | 176,000 | 73 | 115,000 |
| Mechanical | 2,311 | 107,313 | 60,452 | 75,000 | 99,150 | 129,129 | 165,000 | 2,264 | 98,922 |
| Metallurgy | 29 | 121,050 | 67,000 | 90,000 | 110,000 | 140,000 | 180,000 | 29 | 110,000 |
| Minerals and metals | 15 | 128,669 | 62,000 | 80,500 | 121,000 | 162,000 | 207,000 | 15 | 121,000 |
| Mining | 27 | 111,911 | 52,000 | 65,000 | 110,000 | 135,000 | 195,000 | 27 | 110,000 |
| Naval | 25 | 99,323 | 58,240 | 65,000 | 95,850 | 127,451 | 140,000 | 25 | 95,850 |
| Nuclear | 200 | 116,240 | 66,220 | 82,000 | 113,650 | 137,500 | 164,250 | 197 | 112,364 |
| Ocean | 15 | 169,795 | 110,000 | 122,750 | 170,000 | 208,974 | 220,000 | 14 | 169,000 |
| Petroleum | 261 | 140,526 | 74,000 | 90,000 | 127,085 | 170,500 | 219,000 | 256 | 127,043 |
| Plastics | 22 | 118,172 | 48,500 | 54,900 | 99,550 | 153,000 | 220,000 | 22 | 99,550 |
| Power or Utilities | 521 | 118,303 | 69,500 | 86,500 | 114,000 | 140,000 | 171,000 | 513 | 114,000 |
| Quality Assurance | 99 | 99,142 | 51,712 | 67,360 | 94,980 | 120,000 | 160,000 | 98 | 94,990 |
| Reliability | 53 | 114,691 | 74,000 | 88,000 | 110,000 | 131,600 | 165,000 | 53 | 110,000 |
| Robotics | 22 | 99,466 | 53,000 | 62,000 | 86,536 | 118,500 | 159,000 | 21 | 91,700 |
| Safety | 36 | 127,724 | 65,380 | 93,800 | 120,000 | 152,450 | 179,000 | 35 | 125,000 |
| Sanitary | 48 | 111,323 | 63,000 | 82,892 | 111,652 | 130,926 | 151,545 | 48 | 111,652 |
| Software | 29 | 114,588 | 79,700 | 96,500 | 110,800 | 129,000 | 169,500 | 28 | 108,900 |
| Structural | 1,433 | 94,538 | 56,000 | 66,400 | 85,000 | 112,500 | 143,000 | 1,381 | 84,500 |
| Systems | 83 | 116,099 | 64,559 | 79,700 | 112,400 | 140,000 | 174,400 | 83 | 112,400 |
| Transportation | 796 | 96,636 | 57,400 | 67,650 | 88,000 | 115,000 | 149,000 | 786 | 87,850 |
| Welding | 34 | 102,470 | 42,000 | 78,642 | 97,000 | 125,000 | 148,000 | 34 | 97,000 |

EXHIBIT 15: INCOME BY MAJOR BRANCH OF ENGINEERING* (FULL-TIME SALARIED ONLY)


## Job Function

Full-time salaried median annual income is highest for respondents in executive/administrative/legal job functions ( $\$ 150,000$ ). This group is followed by those in sales/marketing/public relations $(\$ 114,500)$, and research \& development applications $(\$ 102,612)$.

Full-time salaried median incomes in not-for-profit/public service, production/quality management/ maintenance and others, instructional/higher education, and project management/engineering/operations ranges between \$93,880 and \$102,470.

The lowest full-time salaried median incomes are received by those in drafting/estimating ( $\$ 54,400$ ), design ( $\$ 73,300$ ), training/technical writing ( $\$ 77,143$ ), planning/project study \& analysis/valuation/testing $(\$ 82,482)$, construction supervision $(\$ 85,100)$, and consulting $(\$ 89,000)$.

A graphical comparison of full-time salaried median incomes by job function appears in Exhibit 17.
EXHIBIT 16: INCOME (\$) BY JOB FUNCTION

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { \# of } \\ \text { Responses } \end{gathered}$ | Mean | $\begin{aligned} & \text { 10th } \\ & \text { Pctl } \end{aligned}$ | $\begin{aligned} & \text { 25th } \\ & \text { Pctl } \end{aligned}$ | Median | $\begin{aligned} & \text { 75th } \\ & \text { Pctl } \end{aligned}$ | $\begin{aligned} & \text { 90th } \\ & \text { Pctl } \end{aligned}$ | $\begin{gathered} \text { \# of } \\ \text { Responses } \end{gathered}$ | Median |
| Construction Supervision | 335 | 94,436 | 50,000 | 62,220 | 85,200 | 112,000 | 149,000 | 330 | 85,100 |
| Consulting | 2,342 | 103,534 | 56,980 | 69,500 | 90,727 | 125,000 | 167,000 | 2,175 | 89,000 |
| Design | 2,789 | 81,004 | 53,000 | 61,000 | 73,500 | 94,827 | 120,000 | 2,763 | 73,300 |
| Drafting/Estimating | 57 | 63,886 | 40,000 | 45,000 | 55,000 | 66,980 | 105,000 | 56 | 54,000 |
| Executive/Administrative/Legal | 600 | 162,927 | 99,647 | 118,000 | 150,000 | 190,600 | 248,750 | 579 | 150,000 |
| Instructional/Higher Education | 277 | 110,105 | 66,177 | 79,350 | 102,000 | 136,000 | 168,000 | 277 | 102,000 |
| Not-for-profit/Public Service | 291 | 96,018 | 61,000 | 74,109 | 93,880 | 113,630 | 139,512 | 291 | 93,880 |
| Other | 329 | 108,552 | 60,000 | 80,000 | 102,000 | 131,000 | 161,000 | 326 | 102,000 |
| Planning/Project Study \& Analysis/Valuation/Testing | 266 | 91,405 | 52,000 | 64,000 | 82,996 | 110,800 | 140,000 | 264 | 82,482 |
| Production/Quality Management/ Maintenance and others | 487 | 103,954 | 58,000 | 74,000 | 98,000 | 123,000 | 160,000 | 487 | 98,000 |
| Project Management/Engineering/ Operations | 3,862 | 110,548 | 65,500 | 82,000 | 102,500 | 130,112 | 162,100 | 3,830 | 102,470 |
| Research \& Development/Applications | 876 | 108,559 | 60,000 | 76,872 | 103,000 | 133,450 | 160,000 | 863 | 102,612 |
| Sales/Marketing/Public Relations | 174 | 120,017 | 70,000 | 92,200 | 114,750 | 140,000 | 180,000 | 169 | 114,500 |
| Training/Technical Writing | 35 | 86,932 | 50,000 | 67,828 | 77,143 | 108,500 | 134,000 | 35 | 77,143 |

EXHIBIT 17: INCOME BY JOB FUNCTION (FULL-TIME SALARIED ONLY)


## Industry or Service of Employer

The highest full-time salaried median incomes of the 27 industry groups studied were received by respondents employed by those in petroleum/natural gas products ( $\$ 120,000$ ), utilities - pipelines ( $\$ 110,500$ ), utilities - gas $(\$ 108,850)$, and utilities - electric $(\$ 108,369)$.

Those receiving the lowest full-time salaried median incomes are employed by a private practice $(\$ 84,032)$, transportation services $(\$ 84,330)$, state government $(\$ 85,000)$, fabricated metal products $(\$ 85,500)$, and transportation equipment $(\$ 87,333)$.

EXHIBIT 18: INCOME (\$) BY INDUSTRY OR SERVICE OF EMPLOYER

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \# of Responses | Mean | $\begin{aligned} & \text { 10th } \\ & \text { Pctl } \end{aligned}$ | $\begin{aligned} & \text { 25th } \\ & \text { PctI } \end{aligned}$ | Median | $\begin{aligned} & \text { 75th } \\ & \text { PctI } \end{aligned}$ | $\begin{aligned} & \text { 90th } \\ & \text { PctI } \end{aligned}$ | \# of Responses | Median |
| Aerospace/aircraft products | 436 | 109,284 | 62,000 | 78,750 | 104,487 | 131,750 | 159,400 | 434 | 104,487 |
| Chemical, pharmaceutical and allied products | 312 | 114,635 | 68,250 | 81,119 | 104,150 | 140,500 | 173,500 | 310 | 104,150 |
| Coal products | 22 | 100,744 | 61,000 | 73,500 | 106,151 | 126,000 | 131,000 | 22 | 106,151 |
| Colleges and universities | 388 | 106,747 | 57,500 | 75,000 | 100,000 | 136,000 | 165,000 | 388 | 100,000 |
| Communication services | 17 | 106,500 | 48,500 | 83,000 | 97,000 | 127,000 | 200,000 | 17 | 97,000 |
| Construction and real estate development | 446 | 105,191 | 55,500 | 67,210 | 92,000 | 132,357 | 170,000 | 436 | 91,700 |
| Electrical and electronics equipment | 370 | 108,529 | 60,000 | 76,000 | 100,582 | 130,000 | 170,000 | 367 | 100,663 |
| Fabricated metal products | 381 | 94,433 | 52,500 | 65,500 | 85,500 | 115,900 | 145,000 | 379 | 85,500 |
| Food/Beverage/Tobacco products | 65 | 118,536 | 53,000 | 70,600 | 107,000 | 141,602 | 200,059 | 64 | 106,300 |
| Government - Federal | 614 | 104,275 | 60,400 | 77,000 | 101,000 | 128,000 | 150,300 | 613 | 101,000 |
| Government - Local | 727 | 96,989 | 59,620 | 76,500 | 93,120 | 113,381 | 140,000 | 722 | 92,950 |
| Government - State | 366 | 88,279 | 51,960 | 66,227 | 85,033 | 105,228 | 126,000 | 365 | 85,000 |
| Machinery (except electrical) | 431 | 101,193 | 59,800 | 71,500 | 93,000 | 120,000 | 153,000 | 425 | 93,000 |
| Other manufacturing | 418 | 102,737 | 59,000 | 71,500 | 95,377 | 125,000 | 156,000 | 414 | 95,877 |
| Other non-manufacturing | 298 | 116,002 | 60,000 | 81,000 | 105,000 | 138,300 | 185,000 | 294 | 105,000 |
| Petroleum/Natural gas products | 543 | 135,382 | 70,500 | 89,000 | 120,200 | 169,367 | 214,000 | 537 | 120,000 |
| Primary metal industries | 80 | 105,606 | 56,900 | 71,950 | 95,000 | 125,000 | 171,500 | 78 | 94,500 |
| Private Practice | 4,836 | 97,363 | 55,120 | 66,000 | 85,000 | 116,270 | 153,000 | 4,633 | 84,032 |
| Research Organizations and Laboratories | 237 | 112,234 | 62,196 | 84,000 | 110,000 | 135,236 | 165,000 | 231 | 108,204 |
| Rubber and plastic products | 97 | 100,915 | 54,000 | 75,000 | 92,500 | 125,000 | 149,000 | 97 | 92,500 |
| Stone/Clay/Glass/Concrete Products | 60 | 106,019 | 64,500 | 74,368 | 98,586 | 123,000 | 150,250 | 59 | 97,550 |
| Transportation equipment | 282 | 95,999 | 57,700 | 68,000 | 87,667 | 114,000 | 142,000 | 279 | 87,333 |
| Transportation services | 161 | 97,552 | 53,000 | 62,800 | 85,000 | 113,500 | 158,000 | 158 | 84,330 |
| Utilities - Electric | 644 | 114,770 | 70,084 | 85,000 | 109,000 | 135,000 | 165,000 | 639 | 108,369 |
| Utilities - Gas | 84 | 116,338 | 73,000 | 85,500 | 108,850 | 131,200 | 175,000 | 84 | 108,850 |
| Utilities - Other or mixed | 286 | 112,453 | 65,484 | 78,000 | 101,711 | 135,000 | 167,500 | 283 | 101,421 |
| Utilities - Pipeline | 119 | 123,650 | 61,500 | 80,500 | 110,500 | 158,800 | 190,000 | 117 | 110,500 |

EXHIBIT 19: INCOME BY INDUSTRY OR SERVICE OF EMPLOYER (FULL-TIME SALARIED ONLY)


## Licensing and Certification Status

The vast majority of full-time respondents (54.1\%) are PEs who do not hold other licenses, $0.8 \%$ are PEs certified in environmental engineering, $0.1 \%$ are PEs certified in forensic engineering, $2.3 \%$ are PEs certified in some other engineering specialty, $0.9 \%$ are PEs and professional or land surveyors, and $1.7 \%$ are PEs in some other licensed profession). Engineers-in-training/engineer interns comprise $22.4 \%$ of the sample, while professional land surveyors comprise $0.02 \%$ of the sample. The remaining participants are neither registered nor certified.

Exhibit 20 reports income by licensing-certification status. Those full-time salaried respondents who are professional engineers in some other licensed profession $(\$ 116,000)$. Following them are PEs certified in environmental engineering ( $\$ 111,550$ ), PEs who are also a professional surveyor or land surveyor $(\$ 111,250)$, PEs certified in some other engineering specialty ( $\$ 110,300$ ), and PEs who do not hold other licenses $(\$ 100,000)$. Unlicensed engineers have a median income of \$95,500 and engineers-in-training/engineer interns of \$68,450.

EXHIBIT 20: INCOME (\$) BY LICENSING OR CERTIFICATION STATUS


EXHIBIT 21: INCOME BY LICENSING OR CERTIFICATION STATUS (FULL-TIME SALARIED ONLY)


## Supervisory Responsibility

Supervisory responsibility plays an important part in determining income, and $50.3 \%$ of full-time respondents have supervisory or managerial responsibility.

Income increases regularly with increased supervisory/managerial responsibility. As one might expect, supervision of engineers and other professionals results in higher earnings than does supervision of subprofessional personnel, given the same number of subordinates.

Full-time salaried engineers in nonsupervisory positions have a median income of $\$ 78,500$, while the median income of those supervising/managing one or two professionals (e.g., engineers, scientists, or technologists) increases regularly from $\$ 94,000$ to $\$ 169,000$ for those who direct the activities of 50 -plus professionals.

Full-time salaried engineers supervising both professionals and nonprofessionals result in a similar progression in median income from $\$ 89,000$ for those supervising one to four subordinates to $\$ 177,500$ for the group that manages 250 or more such subordinates.

This data is displayed in Exhibits 22 and 23.

EXHIBIT 22: INCOME (\$) BY SUPERVISORY RESPONSIBILITY

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \#of Responses | Mean | $\begin{aligned} & \text { 10th } \\ & \text { Pctl } \end{aligned}$ | $\begin{aligned} & \text { 25th } \\ & \text { Pctl } \end{aligned}$ | Median | $\begin{aligned} & \hline \text { 75th } \\ & \text { PctI } \end{aligned}$ | $\begin{aligned} & \text { 90th } \\ & \text { Pctl } \end{aligned}$ | \#of Responses | Median |
| No supervisory responsibility | 5,703 | 87,689 | 53,000 | 62,400 | 79,000 | 104,814 | 134,200 | 5,619 | 78,500 |
| 1-2 professionals supervised | 495 | 100,501 | 66,300 | 77,000 | 94,000 | 115,540 | 144,000 | 483 | 94,000 |
| 3-4 professionals supervised | 690 | 106,797 | 69,725 | 83,362 | 100,240 | 123,593 | 149,900 | 669 | 100,000 |
| 5-9 professionals supervised | 893 | 119,404 | 82,680 | 95,000 | 113,000 | 136,000 | 166,000 | 881 | 113,000 |
| 10-49 professionals supervised | 889 | 144,922 | 97,000 | 115,000 | 136,500 | 167,000 | 202,000 | 877 | 136,000 |
| 50 or more professionals supervised | 191 | 182,631 | 113,600 | 138,000 | 169,000 | 212,400 | 265,000 | 189 | 169,000 |
| 1-2 non-professionals supervised | 233 | 79,595 | 53,751 | 63,500 | 73,000 | 90,834 | 112,000 | 226 | 72,500 |
| 3-4 non-professionals supervised | 213 | 81,934 | 56,500 | 64,078 | 74,000 | 93,333 | 115,000 | 209 | 74,000 |
| 5-9 non-professionals supervised | 181 | 85,779 | 52,200 | 63,000 | 77,501 | 100,000 | 129,000 | 181 | 77,501 |
| 10-49 non-professionals supervised | 197 | 101,064 | 58,000 | 70,000 | 92,300 | 120,000 | 151,572 | 194 | 92,045 |
| 50 or more non-professionals supervised | 49 | 132,176 | 75,000 | 100,000 | 124,800 | 158,000 | 200,000 | 49 | 124,800 |
| 1-4 professionals and non-professionals supervised | 481 | 96,712 | 64,000 | 76,000 | 89,000 | 113,000 | 136,300 | 456 | 89,000 |
| 5-9 professionals and non-professionals supervised | 403 | 109,919 | 70,000 | 84,433 | 102,000 | 125,736 | 157,000 | 389 | 102,000 |
| 10-49 professionals and non-professionals supervised | 633 | 130,635 | 81,369 | 99,216 | 120,000 | 150,000 | 198,000 | 608 | 119,000 |
| 50-99 professionals and non-professionals supervised | 113 | 153,006 | 102,000 | 114,304 | 140,000 | 183,500 | 220,000 | 111 | 140,000 |
| 100-249 professionals and nonprofessionals supervised | 77 | 166,124 | 100,000 | 125,000 | 152,800 | 200,000 | 251,000 | 75 | 152,800 |
| 250 or more professionals and non-professionals supervised | 42 | 201,575 | 120,000 | 149,000 | 177,500 | 220,000 | 305,000 | 42 | 177,500 |

EXHIBIT 23: INCOME BY SUPERVISORY RESPONSIBILITY (FULL-TIME SALARIED ONLY)


## Sub-Regions

Exhibit 24 reports income by geographic sub-region (with sub-regions including metropolitan areas surveyed). As the data indicate, the highest median incomes are in the Pacific Southwest States $(\$ 104,061)$, the South Central States $(\$ 101,000)$, and the Middle Atlantic States $(\$ 95,000)$. The lowest full-time salaried median incomes are found in the Upper Mountain States $(\$ 80,878)$, the Great Lakes States $(\$ 86,067)$ and the Central Plains States $(\$ 88,000)$.

The online report also includes the ability to select data by state, major metropolitan area, zip code, and the following regions:

- North Central: Central Plains, Great Lakes, and Upper Mountain States
- North East: Middle Atlantic and New England States
- South Central: Lower Mountain and South Central States
- South East: Lower Southeast and Middle Southeast States
- West Coast: Pacific Northwest and Pacific Southwest States

EXHIBIT 24: MEDIAN ANNUAL INCOME BY SUB-REGION—METROPOLITAN AREAS INCLUDED (FULL-TIME SALARIED ONLY)


EXHIBIT 25: INCOME (\$) BY SUB-REGION
(METROPOLITAN AREAS INCLUDED)

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \# of Responses | Mean | $\begin{aligned} & \text { 10th } \\ & \text { Pctl } \end{aligned}$ | $\begin{aligned} & \text { 25th } \\ & \text { PctI } \end{aligned}$ | Median | $\begin{aligned} & \hline \text { 75th } \\ & \text { PctI } \end{aligned}$ | $\begin{aligned} & \text { 90th } \\ & \text { PctI } \end{aligned}$ | \# of Responses | Median |
| New England | 786 | 99,376 | 55,800 | 68,000 | 91,172 | 118,833 | 157,000 | 761 | 91,000 |
| Middle Atlantic | 1,854 | 102,845 | 57,200 | 70,000 | 95,000 | 124,000 | 157,350 | 1,823 | 95,000 |
| Middle Southeast | 1,447 | 102,859 | 58,000 | 71,390 | 94,422 | 124,575 | 160,000 | 1,415 | 94,200 |
| Lower Southeast | 950 | 100,895 | 55,630 | 68,200 | 93,850 | 122,750 | 151,000 | 928 | 93,000 |
| Great Lakes | 2,045 | 95,486 | 55,825 | 68,000 | 86,958 | 114,264 | 143,000 | 2,014 | 86,067 |
| Central Plains | 654 | 95,998 | 56,480 | 67,000 | 88,520 | 117,000 | 145,000 | 644 | 88,000 |
| Upper Mountain | 183 | 88,335 | 52,000 | 63,654 | 82,000 | 107,000 | 135,539 | 173 | 80,878 |
| South Central | 1,656 | 116,198 | 61,105 | 76,000 | 102,000 | 140,000 | 190,000 | 1,622 | 101,000 |
| Lower Mountain | 908 | 101,489 | 58,500 | 72,000 | 93,000 | 121,860 | 150,500 | 890 | 92,729 |
| Pacific Northwest | 696 | 100,619 | 60,000 | 71,500 | 93,000 | 119,457 | 151,000 | 681 | 92,227 |
| Pacific Southwest | 1,423 | 114,042 | 65,000 | 80,000 | 104,814 | 138,796 | 176,328 | 1,384 | 104,061 |

Exhibit 27 graphically displays the 10 highest full-time salaried median incomes by metropolitan area. As Exhibit 26 shows, when full-time salaried median income data by sub-region are analyzed excluding the metropolitan areas that are presented in Exhibit 27, the highest median incomes are in the Pacific Southwest States $(\$ 101,000)$ and the Middle Atlantic States ( $\$ 93,775$ ).

EXHIBIT 26: INCOME (\$) BY SUB-REGION
(TEN HIGHEST METROPOLITAN AREAS EXCLUDED)

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \# of Responses | Mean | $\begin{aligned} & \text { 10th } \\ & \text { Pctl } \end{aligned}$ | $\begin{aligned} & \text { 25th } \\ & \text { Pctl } \end{aligned}$ | Median | $\begin{aligned} & \text { 75th } \\ & \text { Pct } \end{aligned}$ | $\begin{aligned} & \text { 90th } \\ & \text { Pctl } \end{aligned}$ | \# of Responses | Median |
| New England | 786 | 99,376 | 55,800 | 68,000 | 91,172 | 118,833 | 157,000 | 761 | 91,000 |
| Middle Atlantic | 1,702 | 101,069 | 56,800 | 69,729 | 94,000 | 120,000 | 154,000 | 1,674 | 93,775 |
| Middle Southeast | 1,190 | 98,944 | 57,000 | 70,000 | 90,500 | 120,000 | 151,003 | 1,166 | 90,425 |
| Lower Southeast | 900 | 100,349 | 55,560 | 68,132 | 92,543 | 120,493 | 152,750 | 879 | 92,000 |
| Great Lakes | 2,045 | 95,486 | 55,825 | 68,000 | 86,958 | 114,264 | 143,000 | 2,014 | 86,067 |
| Central Plains | 654 | 95,998 | 56,480 | 67,000 | 88,520 | 117,000 | 145,000 | 644 | 88,000 |
| Upper Mountain | 183 | 88,335 | 52,000 | 63,654 | 82,000 | 107,000 | 135,539 | 173 | 80,878 |
| South Central | 1,043 | 105,003 | 57,900 | 70,500 | 93,000 | 125,000 | 168,000 | 1,016 | 92,500 |
| Lower Mountain | 908 | 101,489 | 58,500 | 72,000 | 93,000 | 121,860 | 150,500 | 890 | 92,729 |
| Pacific Northwest | 682 | 100,430 | 60,000 | 71,000 | 92,760 | 118,956 | 151,300 | 668 | 92,077 |
| Pacific Southwest | 1,131 | 111,085 | 64,230 | 77,000 | 102,000 | 135,000 | 168,000 | 1,099 | 101,000 |

EXHIBIT 27: 10 HIGHEST INCOMES BY METROPOLITAN AREA (FULL-TIME SALARIED ONLY)


## Metropolitan Area

For this analysis, only those metropolitan areas with a minimum of 10 full-time salaried respondents are included. The highest full-time salaried median income is found in Bakersfield, CA ( $\$ 129,000$ ); Brazoria, TX $(\$ 125,850)$; Bellingham, WA ( $\$ 120,000$ ); Houston, TX $(\$ 120,000)$; Huntsville, AL ( $\$ 117,700$ ); Vallejo-Fairfield-Napa, CA ( $\$ 117,500$ ); Washington, DC-MD-VA-WV $(\$ 116,871)$; San Jose, CA $(\$ 116,372)$; Orange County, CA ( $\$ 115,000$ ); and Middlesex-Somerset-Hunterdon, $\mathrm{NJ}(\$ 113,968)$.

The lowest full-time salaried median incomes found in this study are in Burlington, VT $(\$ 56,040)$; Iowa City, IA ( $\$ 58,800$ ); Savannah, GA $(\$ 64,950)$; Erie, PA $(\$ 65,000)$; and Duluth-Superior, MN-WI $(\$ 66,700)$.

The full-time salaried median incomes in the remaining metropolitan areas surveyed range from $\$ 67,080$ to $\$ 113,000$.

EXHIBIT 28: INCOME (\$) BY METROPOLITAN AREA

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { \# of } \\ \text { Responses } \end{gathered}$ | Mean | 10th Pctl | 25th Pctl | Median | 75th Pctl | 90th Pctl | $\begin{gathered} \text { \# of } \\ \text { Responses } \end{gathered}$ | Median |
| Akron, OH | 47 | 103,158 | 68,000 | 80,000 | 98,100 | 127,000 | 137,500 | 46 | 98,050 |
| Albany-Schenectady-Troy, NY | 90 | 94,209 | 53,490 | 65,000 | 92,378 | 115,000 | 133,836 | 88 | 90,478 |
| Albuquerque, NM | 53 | 105,609 | 62,150 | 78,000 | 100,200 | 136,000 | 149,000 | 52 | 101,629 |
| Allentown-Bethlehem-Easton, PA | 43 | 93,793 | 53,664 | 64,300 | 76,000 | 110,120 | 147,300 | 43 | 76,000 |
| Amarillo, TX | 13 | 97,514 | 63,759 | 69,000 | 89,022 | 123,000 | 148,500 | 13 | 89,022 |
| Anchorage, AK | 73 | 109,746 | 62,400 | 74,298 | 104,064 | 132,500 | 160,000 | 73 | 104,064 |
| Ann Arbor, Ml | 41 | 111,654 | 53,000 | 66,546 | 98,565 | 153,000 | 187,000 | 40 | 98,383 |
| Appleton-Oshkosh-Neenah, WI | 18 | 90,746 | 56,500 | 78,000 | 85,000 | 96,058 | 150,000 | 18 | 85,000 |
| Atanta, GA | 180 | 108,307 | 59,650 | 71,250 | 100,000 | 130,500 | 170,882 | 173 | 100,000 |
| Augusta-Aiken, GA-SC | 19 | 100,470 | 49,900 | 66,000 | 95,000 | 125,000 | 150,111 | 19 | 95,000 |
| Austin-San Marcos, TX | 119 | 105,142 | 58,300 | 72,500 | 86,000 | 126,000 | 177,000 | 114 | 85,250 |
| Bakersfield, CA | 21 | 143,606 | 90,000 | 99,500 | 127,000 | 180,880 | 228,000 | 20 | 129,000 |
| Baltimore, MD | 158 | 104,908 | 64,501 | 77,000 | 99,917 | 126,000 | 159,000 | 155 | 100,000 |
| Baton Rouge, LA | 78 | 99,297 | 59,100 | 73,500 | 90,115 | 115,000 | 145,000 | 77 | 92,000 |
| Beaumont-PortArthur, TX | 13 | 119,461 | 64,126 | 73,800 | 110,000 | 150,000 | 174,500 | 13 | 110,000 |
| Bellingham, WA | 14 | 109,844 | 72,000 | 80,000 | 119,750 | 129,000 | 140,000 | 13 | 120,000 |
| Bergen-Passaic, NJ | 50 | 108,257 | 67,000 | 75,000 | 110,638 | 127,500 | 156,000 | 50 | 110,638 |
| Billings, MT | 12 | 83,311 | 55,000 | 62,000 | 80,500 | 103,500 | 114,581 | 12 | 80,500 |
| Bimingham, AL | 67 | 105,634 | 60,000 | 69,500 | 100,000 | 138,000 | 162,000 | 67 | 100,000 |
| Boise City, ID | 43 | 90,824 | 52,500 | 63,000 | 86,500 | 113,463 | 135,539 | 42 | 86,700 |
| Boston, MA-NH | 277 | 99,802 | 56,000 | 69,000 | 89,895 | 121,000 | 160,500 | 267 | 88,301 |
| Boulder-Longmont, CO | 31 | 108,031 | 70,000 | 77,056 | 111,500 | 128,600 | 144,876 | 31 | 111,500 |
| Brazoria, TX | 14 | 134,521 | 94,000 | 102,000 | 125,850 | 165,000 | 202,000 | 14 | 125,850 |
| Bremerton, WA | 11 | 116,026 | 61,505 | 62,000 | 84,619 | 114,496 | 280,000 | 11 | 84,619 |
| Bridgeport, CT | 15 | 99,720 | 55,500 | 70,000 | 99,000 | 117,000 | 150,000 | 15 | 99,000 |
| Bryan-College Station, TX | 17 | 100,073 | 60,000 | 86,200 | 95,840 | 116,000 | 129,000 | 16 | 95,420 |
| Buffalo-Niagara Falls, NY | 52 | 89,821 | 53,000 | 62,568 | 86,670 | 105,500 | 136,000 | 52 | 86,670 |
| Burlington, VT | 17 | 75,383 | 44,500 | 47,677 | 58,000 | 106,202 | 110,000 | 16 | 56,040 |
| Canton-Massillon, OH | 12 | 88,699 | 51,833 | 57,830 | 84,548 | 102,810 | 126,500 | 12 | 84,548 |
| Cedar Rapids, IA | 13 | 98,403 | 65,000 | 73,200 | 84,790 | 119,257 | 154,600 | 12 | 87,448 |

EXHIBIT 28: INCOME (\$) BY METROPOLITAN AREA

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { \# of } \\ \text { Responses } \end{gathered}$ | Mean | 10th PctI | 25th Pctl | Median | 75th Pctl | 90th Pctl | $\begin{array}{\|c\|} \hline \text { \# of } \\ \text { Responses } \end{array}$ | Median |
| Champaign-Urrana, IL | 12 | 105,764 | 58,822 | 73,684 | 90,850 | 149,500 | 172,000 | 12 | 90,850 |
| Charleston, SC | 41 | 100,971 | 58,800 | 73,000 | 91,600 | 120,000 | 150,000 | 39 | 91,600 |
| Charleston, WV | 21 | 105,976 | 49,088 | 63,000 | 81,000 | 118,800 | 169,000 | 21 | 81,000 |
| Charlotte-Gastonia-Rock Hill, NC-SC | 128 | 105,420 | 61,360 | 72,819 | 99,000 | 122,075 | 171,000 | 126 | 99,000 |
| Charottesville, VA | 16 | 89,805 | 63,000 | 69,027 | 77,750 | 101,000 | 120,000 | 15 | 76,500 |
| Chattanooga, TN-GA | 41 | 104,352 | 70,370 | 75,300 | 90,000 | 124,800 | 163,000 | 40 | 91,500 |
| Chicago, IL | 385 | 101,665 | 60,000 | 71,000 | 93,000 | 123,000 | 159,000 | 381 | 93,000 |
| Cincinnati, OH-KY-IN | 81 | 93,043 | 52,000 | 61,000 | 89,700 | 118,000 | 140,000 | 78 | 88,850 |
| Cleveland-Lorain-Elyria, OH | 105 | 92,391 | 59,000 | 72,600 | 88,000 | 106,000 | 131,500 | 104 | 88,250 |
| Colorado Springs, CO | 34 | 95,018 | 57,100 | 77,900 | 92,500 | 110,000 | 148,653 | 34 | 92,500 |
| Columbia, SC | 26 | 105,646 | 59,085 | 73,200 | 92,950 | 125,000 | 154,300 | 26 | 92,950 |
| Columbus, OH | 108 | 98,492 | 54,000 | 70,360 | 87,900 | 118,200 | 154,000 | 105 | 87,700 |
| Corpus Christi, TX | 17 | 123,124 | 62,400 | 65,000 | 104,000 | 134,000 | 291,500 | 16 | 97,000 |
| Corvalis, OR | 12 | 105,560 | 67,000 | 80,950 | 93,500 | 122,209 | 142,000 | 12 | 93,500 |
| Dallas, TX | 165 | 106,111 | 55,500 | 71,000 | 95,000 | 120,000 | 166,000 | 161 | 95,000 |
| Davenport-Moline-Rock Island, IA-IL | 18 | 77,762 | 50,000 | 60,320 | 72,092 | 94,000 | 110,000 | 18 | 72,092 |
| Dayton-Springfield, OH | 42 | 95,875 | 59,160 | 72,500 | 92,897 | 115,000 | 130,000 | 41 | 88,554 |
| Denver, Co | 248 | 103,981 | 57,623 | 71,978 | 95,000 | 125,000 | 162,000 | 243 | 95,000 |
| Des Moines, IA | 39 | 80,121 | 51,000 | 64,400 | 77,500 | 93,000 | 106,000 | 39 | 77,500 |
| Detroit, MI | 120 | 100,233 | 56,000 | 72,350 | 90,000 | 122,000 | 156,450 | 117 | 90,000 |
| Duluth-Superior, MN-WI | 20 | 85,017 | 48,294 | 52,000 | 66,700 | 81,406 | 172,500 | 20 | 66,700 |
| ElPaso, TX | 10 | 141,704 | 49,325 | 64,000 | 110,750 | 222,000 | 292,500 | 10 | 110,750 |
| Ene, PA | 15 | 75,993 | 54,000 | 57,000 | 65,000 | 100,000 | 126,500 | 15 | 65,000 |
| Evansville-Henderson, IN-KY | 21 | 87,703 | 50,856 | 63,000 | 74,963 | 105,400 | 150,000 | 21 | 74,963 |
| Flagstaft, AZ-UT | 16 | 76,992 | 46,800 | 51,762 | 67,080 | 82,500 | 108,530 | 16 | 67,080 |
| Fort Collins-Loveland, CO | 47 | 96,307 | 60,000 | 65,000 | 82,806 | 114,000 | 142,000 | 45 | 82,806 |
| Fort Lauderdale, FL | 28 | 106,319 | 62,500 | 72,400 | 92,500 | 134,726 | 155,000 | 28 | 92,500 |
| Fort Pierce-Port St. Lucie, FL | 13 | 103,344 | 63,500 | 69,000 | 102,586 | 124,000 | 168,000 | 13 | 102,586 |
| Fort Wayne, IN | 22 | 78,856 | 54,230 | 60,500 | 74,250 | 90,000 | 116,500 | 22 | 74,250 |
| Fort Worth-Arington, TX | 91 | 99,733 | 56,000 | 62,000 | 86,630 | 127,049 | 167,000 | 87 | 86,630 |
| Fresno, CA | 23 | 93,972 | 61,800 | 74,000 | 87,000 | 107,580 | 128,900 | 23 | 87,000 |
| Gainesville, FL | 17 | 98,901 | 50,250 | 65,000 | 100,000 | 129,817 | 154,000 | 17 | 100,000 |
| Galveston-Texas City, TX | 13 | 148,382 | 74,880 | 96,000 | 131,800 | 177,000 | 240,000 | 11 | 110,000 |
| Gary, IN | 22 | 109,359 | 60,000 | 77,000 | 112,259 | 132,600 | 141,000 | 22 | 112,259 |
| Grand Rapids-Muskegon-Holland, MI | 41 | 88,744 | 61,650 | 71,136 | 80,300 | 98,843 | 130,000 | 40 | 80,384 |
| Green Bay, WI | 16 | 92,142 | 50,528 | 61,523 | 72,800 | 107,572 | 123,300 | 16 | 72,800 |
| Greensboro-Winston Salem-High Point, NC | 24 | 111,240 | 69,000 | 83,500 | 98,452 | 137,750 | 147,760 | 24 | 98,452 |
| Greenville-Spartanburg-Anderson, SC | 79 | 100,546 | 58,500 | 73,000 | 87,480 | 122,800 | 159,400 | 79 | 87,480 |
| Hamilton-Middletown, OH | 11 | 111,095 | 72,000 | 80,000 | 104,000 | 139,500 | 180,845 | 11 | 104,000 |
| Harisburg-Lebanon-Carisle, PA | 51 | 84,143 | 52,500 | 64,000 | 79,083 | 95,000 | 116,000 | 48 | 79,042 |
| Hartford, CT | 103 | 106,850 | 60,320 | 75,500 | 104,000 | 131,300 | 155,000 | 101 | 104,000 |
| Honolulu, HI | 44 | 101,621 | 65,440 | 78,177 | 93,000 | 120,450 | 150,000 | 44 | 93,000 |

EXHIBIT 28: INCOME (\$) BY METROPOLITAN AREA


EXHIBIT 28: INCOME (\$) BY METROPOLITAN AREA


EXHIBIT 28: INCOME (\$) BY METROPOLITAN AREA

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { \# of } \\ \text { Responses } \end{gathered}$ | Mean | 10th Pctl | 25th Pctl | Median | 75th Pctl | 90th Pctl | \# of Responses | Median |
| South Bend, IN | 16 | 82,446 | 55,200 | 62,500 | 79,442 | 98,570 | 110,000 | 16 | 79,442 |
| Spokane, WA | 28 | 86,825 | 50,500 | 64,379 | 85,125 | 104,288 | 120,000 | 28 | 85,125 |
| Springfield, IL | 13 | 104,620 | 61,180 | 75,480 | 112,000 | 131,246 | 140,000 | 13 | 112,000 |
| Springfield, MA | 22 | 94,593 | 45,000 | 60,000 | 90,250 | 108,000 | 130,000 | 22 | 90,250 |
| Springfield, MO | 11 | 88,816 | 56,250 | 71,000 | 82,000 | 100,480 | 136,000 | 10 | 84,296 |
| St. Louis, MO-IL | 147 | 102,094 | 57,000 | 68,000 | 91,500 | 126,500 | 158,000 | 145 | 91,000 |
| State College, PA | 12 | 102,742 | 56,000 | 71,000 | 96,350 | 134,378 | 160,120 | 12 | 96,350 |
| Syracuse, NY | 51 | 107,336 | 53,000 | 61,360 | 85,650 | 126,000 | 170,000 | 50 | 85,325 |
| Tacoma, WA | 19 | 91,885 | 59,000 | 70,000 | 84,500 | 105,200 | 120,000 | 19 | 84,500 |
| Tallahassee, FL | 10 | 88,035 | 42,000 | 53,000 | 76,675 | 103,000 | 173,500 | 10 | 76,675 |
| Tampa-St. Petersburg-Clearwater, FL | 94 | 93,133 | 54,100 | 67,981 | 85,450 | 108,868 | 147,000 | 92 | 85,000 |
| Toledo, OH | 26 | 109,508 | 60,000 | 72,500 | 103,150 | 127,000 | 189,000 | 26 | 103,150 |
| Trenton, NJ | 32 | 106,335 | 69,000 | 80,948 | 103,806 | 129,200 | 155,000 | 32 | 103,806 |
| Tucson, AZ | 45 | 94,473 | 55,000 | 66,500 | 81,060 | 112,400 | 146,000 | 44 | 80,530 |
| Tulsa, OK | 52 | 103,707 | 59,000 | 73,150 | 93,750 | 121,356 | 154,000 | 51 | 93,000 |
| Tyler, TX | 19 | 101,941 | 55,000 | 60,000 | 82,320 | 132,000 | 150,000 | 19 | 82,320 |
| Vallejo-Fairifild-Napa, CA | 15 | 114,663 | 75,000 | 94,000 | 117,500 | 131,500 | 159,000 | 15 | 117,500 |
| Ventura, CA | 21 | 124,928 | 78,508 | 86,000 | 106,000 | 150,000 | 198,000 | 18 | 105,407 |
| Washington, DC-MD-VA-W | 356 | 121,992 | 63,000 | 83,088 | 117,830 | 147,250 | 178,000 | 346 | 116,871 |
| West Palm Beach-Boca Raton, FL | 52 | 103,289 | 63,504 | 82,241 | 99,400 | 117,500 | 140,000 | 50 | 99,400 |
| Wichita, Ks | 18 | 101,592 | 60,320 | 71,000 | 102,067 | 119,200 | 146,000 | 17 | 94,134 |
| Wilmington, NC | 15 | 104,510 | 50,000 | 70,000 | 104,000 | 128,000 | 137,000 | 15 | 104,000 |
| Wilmington-Newark, DE-MD | 30 | 113,926 | 67,750 | 93,900 | 113,000 | 144,000 | 157,793 | 30 | 113,000 |
| Worcester, MA-CT | 21 | 97,932 | 66,620 | 80,330 | 99,680 | 110,100 | 136,000 | 21 | 99,680 |
| York, PA | 17 | 88,389 | 57,950 | 65,000 | 80,000 | 106,700 | 147,424 | 17 | 80,000 |

## Gender

The median income of female engineers $(\$ 76,984)$ is $80.2 \%$ of that of male engineers $(\$ 96,000)$.

EXHIBIT 29: INCOME (\$) BY GENDER

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \# of Responses | Mean | $\begin{aligned} & \text { 10th } \\ & \text { PctI } \end{aligned}$ | $\begin{aligned} & \text { 25th } \\ & \text { Pctl } \end{aligned}$ | Median | $\begin{aligned} & \hline \text { 75th } \\ & \text { PctI } \end{aligned}$ | $\begin{aligned} & \text { 90th } \\ & \text { PctI } \end{aligned}$ | $\begin{gathered} \text { \# of } \\ \text { Responses } \end{gathered}$ | Median |
| Male | 11,173 | 105,616 | 58,660 | 72,600 | 96,500 | 127,000 | 163,000 | 10,927 | 96,000 |
| Female | 1,314 | 85,243 | 53,500 | 62,530 | 77,000 | 99,000 | 129,000 | 1,295 | 76,984 |

When data is analyzed by length of experience, female engineers have a higher median income than male engineers with under 2 years of experience. With all other lengths of experience, male engineers have higher median incomes. Comparison of the income by gender in the remaining groups revealed that female engineers with 3-4 years' experience received $98.2 \%$ as much as male engineers, $94.9 \%$ with $5-9$ years, $92.4 \%$ with $10-14$ years, $86.8 \%$ with $15-19$ years, $93.9 \%$ with $20-24$ years, and $90.7 \%$ with 25 or more years of experience.

EXHIBIT 30: INCOME (\$) BY GENDER VS. LENGTH OF EXPERIENCE (FULL-TIME SALARIED ONLY)

|  | Male Respondents |  | Female Respondents |  |
| ---: | ---: | ---: | ---: | ---: |
|  | \# of Respondents | Median | \# of Respondents | Median |
| Under 1 year | 306 | 55,000 | 57 | 58,700 |
| $1-2$ years | 635 | 58,695 | 116 | 59,000 |
| $3-4$ years | 945 | 64,880 | 192 | 63,732 |
| 5-9 years | 1,901 | 75,106 | 368 | 71,250 |
| $10-14$ years | 1,454 | 92,022 | 188 | 85,000 |
| 15-19 years | 1,169 | 107,050 | 105 | 92,950 |
| $20-24$ years | 1,160 | 116,623 | 86 | 109,500 |
| 25 or more years | 3,357 | 128,200 | 183 | 116,276 |

EXHIBIT 31: INCOME BY GENDER VS. LENGTH OF EXPERIENCE (FULL-TIME SALARIED ONLY)


When analyzed still further, by length of experience and level of education simultaneously, much of the same relationship was found.

Tabular comparisons of median income by gender versus education and experience simultaneously in Exhibit 32.

EXHIBIT 32: INCOME (\$) BY GENDER VS. LEVEL OF EDUCATION AND LENGTH OF EXPERIENCE (FULL-TIME SALARIED ONLY)

|  | Male Respondents |  | Female Respondents |  |
| :---: | :---: | :---: | :---: | :---: |
|  | \# of Responses | Median | \# of Responses | Median |
| BS Degree (engineering) |  |  |  |  |
| Under 1 year | 206 | 53,000 | 34 | 55,000 |
| 1-2 years | 432 | 57,000 | 76 | 58,120 |
| 3-4 years | 637 | 63,500 | 114 | 61,570 |
| 5-9 years | 1,097 | 73,000 | 194 | 68,250 |
| 10-14 years | 795 | 90,000 | 98 | 82,400 |
| 15-19 years | 577 | 102,425 | 56 | 87,500 |
| 20-24 years | 582 | 110,872 | 43 | 109,000 |
| 25 or more years | 1,564 | 123,000 | 62 | 110,175 |
| MS Degree (engineering) |  |  |  |  |
| Under 1 year | 76 | 57,625 | 17 | 61,000 |
| 1-2 years | 152 | 60,397 | 28 | 60,001 |
| 3-4 years | 220 | 66,124 | 59 | 66,227 |
| 5-9 years | 534 | 77,533 | 127 | 74,700 |
| 10-14 years | 409 | 92,029 | 60 | 89,050 |
| 15-19 years | 338 | 110,000 | 26 | 98,000 |
| 20-24 years | 310 | 120,000 | 22 | 114,075 |
| 25 or more years | 900 | 131,500 | 67 | 124,000 |
| Doctorate (engineering) |  |  |  |  |
| Under 1 year | 13 | 84,000 | 4 | -- |
| 1-2 years | 35 | 75,000 | 6 | -- |
| 3-4 years | 43 | 85,000 | 11 | 99,600 |
| 5-9 years | 108 | 96,662 | 21 | 80,000 |
| 10-14 years | 112 | 103,750 | 10 | 92,250 |
| 15-19 years | 113 | 125,000 | 11 | 102,000 |
| 20-24 years | 111 | 125,000 | 14 | 99,049 |
| 25 or more years | 317 | 141,756 | 21 | 142,000 |

## Ethnic Origin

To the degree that the data in this year's survey permit, some comparisons will be made regarding ethnic origin.
EXHIBIT 33: INCOME (\$) BY ETHNIC ORIGIN

|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \# of Responses | Mean | 10th Pct | $\begin{aligned} & \text { 25th } \\ & \text { Pctl } \end{aligned}$ | Median | $\begin{aligned} & \text { 75th } \\ & \text { PctI } \end{aligned}$ | 90th <br> Pctl | \# of Responses | Median |
| American Indian or Alaskan Native | 43 | 97,098 | 64,000 | 70,000 | 87,500 | 112,000 | 133,000 | 43 | 87,500 |
| Asian or Pacific Islander | 744 | 102,846 | 58,000 | 72,400 | 95,000 | 122,000 | 154,500 | 737 | 95,000 |
| Black | 172 | 97,449 | 55,000 | 64,675 | 88,000 | 118,000 | 150,000 | 171 | 88,000 |
| Hispanic | 469 | 94,601 | 54,000 | 65,000 | 85,000 | 113,000 | 142,500 | 460 | 85,000 |
| White (not of Hispanic origin) | 10,582 | 103,844 | 58,000 | 71,000 | 94,600 | 125,000 | 161,000 | 10,345 | 94,000 |
| Other | 162 | 100,950 | 58,510 | 70,000 | 94,890 | 124,000 | 152,000 | 159 | 94,100 |

The sample was limited to respondents who are employed full-time as salaried employees and analyzed by length of experience and level of education simultaneously versus ethnic origin of respondent.

Resulting data are displayed in Exhibit 34.
The sample sizes for American Indian/Alaskan Native respondents were too small to produce an education versus length of experience cell with more than 10 respondents.

With the primary exception of White respondents, caution should be used with any statistical conclusions made based upon origin versus level of education and length of experience due to the small sample sizes for the cells. However, there were certain trends that became apparent within this level of analysis.

## EXHIBIT 34: INCOME (\$) BY ORIGIN VS. HIGHEST DEGREE EARNED AND LENGTH OF EXPERIENCE (FULL-TIME SALARIED ONLY)



## Organization Size

Overall, full-time salaried median income shows an increase from smaller organizations to larger organizations, based on employee size. Per Exhibit 35, the median income increases from $\$ 83,932$ for those in organizations with less than 200 employees to $\$ 107,245$ for those in organizations with 20,000 employees and over.

| EXHIBIT 35: INCOME (\$) BY ORGANIZATION SIZE (NUMBER OF EMPLOYEES) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
|  | \# of Responses | Mean | $\begin{aligned} & \text { 10th } \\ & \text { PctI } \end{aligned}$ | $\begin{aligned} & \text { 25th } \\ & \text { Pctl } \end{aligned}$ | Median | $\begin{aligned} & \hline \text { 75th } \\ & \text { PctI } \end{aligned}$ | $\begin{aligned} & \text { 90th } \\ & \text { Pctl } \end{aligned}$ | \# of Responses | Median |
| Under 200 | 4,055 | 95,901 | 53,000 | 65,000 | 85,000 | 114,000 | 150,000 | 3,796 | 83,932 |
| 200-499 | 1,636 | 97,522 | 56,400 | 68,120 | 88,530 | 117,510 | 147,000 | 1,630 | 88,530 |
| 500-999 | 988 | 101,962 | 60,000 | 72,000 | 94,500 | 121,240 | 154,000 | 985 | 94,200 |
| 1,000-1,999 | 829 | 105,203 | 60,500 | 75,400 | 98,009 | 123,509 | 160,000 | 828 | 98,426 |
| 2,000-4,999 | 1,261 | 108,325 | 61,325 | 76,066 | 100,000 | 128,301 | 165,740 | 1,260 | 100,000 |
| 5,000-9,999 | 894 | 111,748 | 64,350 | 79,000 | 105,000 | 132,622 | 164,000 | 894 | 105,000 |
| 10,000-19,999 | 814 | 110,806 | 64,000 | 76,800 | 102,239 | 131,420 | 170,000 | 813 | 102,148 |
| 20,000 and over | 2,057 | 116,108 | 64,000 | 81,000 | 107,245 | 140,000 | 178,230 | 2,057 | 107,245 |

Overall, full-time salaried median income also shows an increase from smaller organizations to larger organizations, based on sales/revenue. Per Exhibit 36, the median income increases from $\$ 84,000$ for those in organizations with less than $\$ 50$ million in sales/revenue to $\$ 111,792$ for those working in organizations with over $\$ 2$ billion in sales/revenue.

| EXHIBIT 36: INCOME (\$) BY ORGANIZATION SALES/REVENUE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All Respondents |  |  |  |  |  |  | Full-Time Salaried Only |  |
|  | $\begin{array}{c\|} \hline \text { \# of } \\ \text { Responses } \end{array}$ | Mean | $\begin{aligned} & \text { 10th } \\ & \text { PctI } \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \begin{array}{l} \text { 25th } \\ \text { Pctl } \end{array} \end{aligned}$ | Median | $\begin{aligned} & \text { 75th } \\ & \text { Pctl } \end{aligned}$ | $\begin{aligned} & 90 \text { th } \\ & \text { Pctl } \\ & \hline \end{aligned}$ | $\begin{gathered} \text { \# of } \\ \text { Responses } \end{gathered}$ | Median |
| Under \$50 million | 4,501 | 95,526 | 54,000 | 65,350 | 85,000 | 112,320 | 147,000 | 4,238 | 84,000 |
| \$50-99.9 million | 1,084 | 98,655 | 57,623 | 69,500 | 90,539 | 118,000 | 149,000 | 1,080 | 90,473 |
| \$100-499.9 million | 769 | 109,278 | 63,900 | 78,520 | 102,000 | 130,000 | 160,000 | 769 | 102,000 |
| \$500-\$999.9 million | 1,664 | 105,295 | 61,000 | 74,471 | 98,000 | 125,000 | 160,000 | 1,662 | 98,000 |
| \$1-\$1.99 billion | 847 | 109,824 | 63,000 | 76,572 | 100,556 | 131,500 | 167,000 | 847 | 100,556 |
| \$2 billion and over | 2,772 | 120,247 | 67,500 | 84,888 | 111,792 | 145,000 | 183,000 | 2,770 | 111,792 |

## Policies and Practices

The tables in this section summarize the responses to the employment status, overtime, promotion, and benefits questions.

The "\# of Responses" reported reflects those that answered the question as "Yes" or the value that is being measured. The "\% of Responses" reflects the percentage that provided the requested value divided by the total number of responses for that question.

## Employment Status

For example, Exhibit 37 displays the percentage of participants that changed employers during 2011. This table indicates that of 12,720 total responses, 1,673 engineers changed employers, or $13.2 \%$.

EXHIBIT 37: PERCENTAGE OF PARTICIPANTS
THAT CHANGED EMPLOYERS DURING 2011

|  | \# of <br> Responses | \% of <br> Responses |
| ---: | ---: | ---: |
| Entire Sample Combined | 1,673 | $13.2 \%$ |
| Engineer Level I | 148 | $35.2 \%$ |
| Engineer Level II | 145 | $22.9 \%$ |
| Engineer Level III | 190 | $18.2 \%$ |
| Engineer Level IV | 325 | $13.7 \%$ |
| Engineer Level V | 351 | $12.1 \%$ |
| Engineer Level VI | 260 | $10.0 \%$ |
| Engineer Level VII | 176 | $9.3 \%$ |
| Engineer Level VIII | 77 | $8.9 \%$ |

EXHIBIT 38: PERCENTAGE OF PARTICIPANTS THAT WERE UNEMPLOYED BETWEEN JANUARY 1 AND DECEMEBER 31, 2011

|  | \# of <br> Responses | \% of <br> Responses |  |
| ---: | ---: | ---: | :---: |
| Entire Sample Combined | 623 | $4.9 \%$ |  |
| Engineer Level I | 113 | $26.8 \%$ |  |
| Engineer Level II | 82 | $13.0 \%$ |  |
| Engineer Level III | 79 | $7.6 \%$ |  |
| Engineer Level IV | 102 | $4.3 \%$ |  |
| Engineer Level V | 101 | $3.5 \%$ |  |
| Engineer Level VI | 77 | $3.0 \%$ |  |
| Engineer Level VII | 47 | $2.5 \%$ |  |
| Engineer Level VIII | 21 | $2.4 \%$ |  |

EXHIBIT 39: TIME PERIOD OF UNEMPLOYMENT

|  | Under 1 Month | At Least 1 Month, <br> But Less than 3 <br> Months | 3 Months or More |
| ---: | ---: | ---: | ---: |
| Entire Sample Combined | $18.5 \%$ | $29.9 \%$ | $51.7 \%$ |
| Engineer Level I | $8.8 \%$ | $29.2 \%$ | $61.9 \%$ |
| Engineer Level II | $25.6 \%$ | $26.8 \%$ | $47.6 \%$ |
| Engineer Level III | $16.5 \%$ | $34.2 \%$ | $49.4 \%$ |
| Engineer Level IV | $11.8 \%$ | $33.3 \%$ | $54.9 \%$ |
| Engineer Level V | $24.8 \%$ | $23.8 \%$ | $51.5 \%$ |
| Engineer LeveI VI | $26.0 \%$ | $31.2 \%$ | $42.9 \%$ |
| Engineer Level VII | $25.5 \%$ | $25.5 \%$ | $48.9 \%$ |
| Engineer Level VIII | $9.5 \%$ | $42.9 \%$ | $47.6 \%$ |

## Layoffs/Downsizing

The following tables summarize permanent job losses due to layoffs or downsizing.

EXHIBIT 40: PERCENTAGE OF PARTICIPANTS THAT LOST A PERMANENT JOB DUE TO LAYOFF/DOWNSIZING

|  | \# of <br> Responses | \% of <br> Responses |
| ---: | ---: | ---: |
| Entire Sample Combined | 1921 | $15.1 \%$ |
| Engineer Level I | 23 | $5.5 \%$ |
| Engineer Level II | 37 | $5.8 \%$ |
| Engineer Level III | 94 | $9.0 \%$ |
| Engineer Level IV | 278 | $11.7 \%$ |
| Engineer Level V | 540 | $18.7 \%$ |
| Engineer Level VI | 517 | $19.9 \%$ |
| Engineer Level VII | 327 | $17.3 \%$ |
| Engineer Level VIII | 103 | $11.9 \%$ |

EXHIBIT 41: NUMBER OF PERMANENT JOBS LOST DUE TO LAYOFF/DOWNSIZING

|  | One | Two | Three | Four or More |
| ---: | ---: | ---: | ---: | ---: |
| Entire Sample Combined | $70.5 \%$ | $19.8 \%$ | $5.9 \%$ | $3.9 \%$ |
| Engineer Level I | $91.3 \%$ | $4.3 \%$ | $4.3 \%$ | $0.0 \%$ |
| Engineer Level II | $83.8 \%$ | $13.5 \%$ | $0.0 \%$ | $2.7 \%$ |
| Engineer LeveI III | $90.4 \%$ | $7.4 \%$ | $0.0 \%$ | $2.1 \%$ |
| Engineer Level IV | $79.4 \%$ | $11.6 \%$ | $6.1 \%$ | $2.9 \%$ |
| Engineer Level V | $66.1 \%$ | $23.5 \%$ | $5.7 \%$ | $4.6 \%$ |
| Engineer Level VI | $68.2 \%$ | $21.9 \%$ | $5.6 \%$ | $4.3 \%$ |
| Engineer Level VII | $64.8 \%$ | $23.5 \%$ | $8.0 \%$ | $3.7 \%$ |
| Engineer Level VIII | $69.9 \%$ | $17.5 \%$ | $8.7 \%$ | $3.9 \%$ |

EXHIBIT 42: RECENCY OF PERMANENT JOB LOSS DUE TO LAYOFF/DOWNSIZING

|  | Within the <br> Past Year | Within the <br> Past 2 <br> Years | Within the <br> Past 5 <br> Years | Within the <br> Past 10 <br> Years | Over 10 <br> Years |
| ---: | ---: | ---: | ---: | ---: | ---: |
| Entire Sample Combined | $8.5 \%$ | $13.2 \%$ | $25.8 \%$ | $20.0 \%$ | $32.4 \%$ |
| Engineer Level I | $26.1 \%$ | $26.1 \%$ | $34.8 \%$ | $13.0 \%$ | $0.0 \%$ |
| Engineer Level II | $18.9 \%$ | $13.5 \%$ | $62.2 \%$ | $5.4 \%$ | $0.0 \%$ |
| Engineer Level III | $17.0 \%$ | $36.2 \%$ | $40.4 \%$ | $5.3 \%$ | $1.1 \%$ |
| Engineer Level IV | $11.9 \%$ | $21.2 \%$ | $38.5 \%$ | $14.7 \%$ | $13.7 \%$ |
| Engineer Level V | $8.5 \%$ | $11.1 \%$ | $26.5 \%$ | $23.1 \%$ | $30.7 \%$ |
| Engineer Level VI | $5.4 \%$ | $10.4 \%$ | $18.8 \%$ | $22.4 \%$ | $42.9 \%$ |
| Engineer Level VII | $6.1 \%$ | $8.3 \%$ | $18.7 \%$ | $23.2 \%$ | $43.7 \%$ |
| Engineer Level VIIII | $6.8 \%$ | $8.7 \%$ | $16.5 \%$ | $16.5 \%$ | $51.5 \%$ |

## EXHIBIT 43: TYPE OF SUBSEQUENT EMPLOYMENT FOUND AFTER LOSS OF PERMANENT JOB DUE TO LAYOFF/DOWNSIZING (AS A PERCENT OF PARTICIPANTS THAT LOST A PERMANENT JOB DUE TO LAYOFF/DOWNSIZING)

|  | Permanent Job | SelfEmployed as a Consultant | Temp Job for a Specific Time | Temp Job for Specific Project | Other NonPermanent Employment | Currently Unemployed |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Entire Sample Combined | 84.1\% | 6.9\% | 3.8\% | 2.6\% | 1.8\% | 0.8\% |
| Engineer Level I | 60.9\% | 0.0\% | 30.4\% | 0.0\% | 4.3\% | 4.3\% |
| Engineer Level II | 86.5\% | 2.7\% | 2.7\% | 5.4\% | 2.7\% | 0.0\% |
| Engineer Level III | 84.0\% | 2.1\% | 2.1\% | 6.4\% | 2.1\% | 3.2\% |
| Engineer Level IV | 85.3\% | 3.6\% | 5.4\% | 2.5\% | 2.5\% | 0.7\% |
| Engineer Level V | 87.4\% | 4.4\% | 3.5\% | 2.6\% | 1.3\% | 0.7\% |
| Engineer Level VI | 83.4\% | 9.9\% | 3.7\% | 1.5\% | 1.0\% | 0.6\% |
| Engineer Level VII | 82.9\% | 8.6\% | 2.4\% | 2.1\% | 3.1\% | 0.9\% |
| Engineer Level VIII | 77.7\% | 14.6\% | 1.9\% | 5.8\% | 0.0\% | 0.0\% |

## EXHIBIT 44: ECONOMIC EFFECT AFTER LOSS OF PERMANENT JOB DUE TO LAYOFF/DOWNSIZING (AS A PERCENT OF PARTICIPANTS THAT LOST A PERMANENT JOB DUE TO A LAYOFF/DOWNSIZING)

|  | Better Almost <br> Immediately, Better <br> Overall to Date | Better Almost <br> Immediately, Worse <br> Overall to Date | Worse Almost <br> Immediately, Better <br> Overall to Date | Worse Almost <br> Immediately, Worse <br> Overall to Date |
| ---: | ---: | ---: | ---: | ---: |
| Entire Sample Combined | $40.4 \%$ | $6.1 \%$ | $36.9 \%$ | $16.6 \%$ |
| Engineer Level I | $47.8 \%$ | $0.0 \%$ | $26.1 \%$ | $26.1 \%$ |
| Engineer Level II | $37.8 \%$ | $8.1 \%$ | $40.5 \%$ | $13.5 \%$ |
| Engineer Level III | $32.6 \%$ | $5.4 \%$ | $42.4 \%$ | $19.6 \%$ |
| Engineer Level IV | $44.2 \%$ | $8.3 \%$ | $33.7 \%$ | $13.8 \%$ |
| Engineer Level V | $44.1 \%$ | $6.7 \%$ | $33.7 \%$ | $15.5 \%$ |
| Engineer Level VI | $38.4 \%$ | $5.8 \%$ | $37.9 \%$ | $17.9 \%$ |
| Engineer Level VII | $38.2 \%$ | $4.6 \%$ | $40.4 \%$ | $16.8 \%$ |
| Engineer Level VIII | $35.0 \%$ | $4.9 \%$ | $17.5 \%$ |  |


| EXHIBIT 45: CHANGE IN STARTING SALARY AFTER LOSS OF PERMANENT JOB COMPARED TO PREVIOUS SALARY <br> (AS A PERCENT OF PARTICIPANTS THAT LOST A PERMANENT JOB DUE TO A LAYOFF/DOWNSIZING) |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $20 \%$ or more Lower | 10-19\% <br> Lower | $\begin{aligned} & \text { 5-9\% } \\ & \text { Lower } \end{aligned}$ | Within 5\% | $\begin{gathered} \text { 5-9\% } \\ \text { Higher } \end{gathered}$ | 10-19\% Higher | $20 \%$ or more Higher |
| Entire Sample Combined | 15.2\% | 12.9\% | 7.5\% | 29.5\% | 12.6\% | 11.8\% | 10.4\% |
| Engineer Level I | 13.0\% | 4.3\% | 8.7\% | 34.8\% | 17.4\% | 4.3\% | 17.4\% |
| Engineer Level II | 11.1\% | 8.3\% | 5.6\% | 36.1\% | 16.7\% | 13.9\% | 8.3\% |
| Engineer Level III | 6.5\% | 15.1\% | 10.8\% | 33.3\% | 17.2\% | 7.5\% | 9.7\% |
| Engineer Level IV | 13.5\% | 11.3\% | 7.7\% | 30.3\% | 14.6\% | 10.6\% | 12.0\% |
| Engineer Level V | 12.5\% | 12.7\% | 6.2\% | 32.5\% | 13.6\% | 12.1\% | 10.4\% |
| Engineer Level VI | 17.6\% | 14.0\% | 8.1\% | 29.7\% | 10.7\% | 11.6\% | 8.3\% |
| Engineer Level VII | 18.0\% | 13.8\% | 8.0\% | 21.1\% | 12.5\% | 15.0\% | 11.6\% |
| Engineer Level VIII | 22.3\% | 12.6\% | 6.8\% | 31.1\% | 5.8\% | 9.7\% | 11.7\% |

## Change in Base Salary

$71.9 \%$ of all survey respondents indicated a salary increase in 2011. Of those respondents, the average increase was $5.73 \%$ and the median increase was $3.6 \%$.

| EXHIBIT 46: PERCENTAGE OF PARTICIPANTS |  |
| ---: | ---: | ---: |
| INDICATING A CHANGE IN BASE SALARY IN 2011 |  |

## Promotions

## Contract/Temporary/Consulting Employment

EXHIBIT 47: PERCENTAGE OF PARTICIPANTS THAT WERE PROMOTED IN 2011

|  | \# of <br> Responses | \% of <br> Responses |
| ---: | ---: | ---: |
| Entire Sample Combined | 2,209 | $17.4 \%$ |
| Engineer Level I | 39 | $9.26 \%$ |
| Engineer Level II | 134 | $21.17 \%$ |
| Engineer Level III | 241 | $23.04 \%$ |
| Engineer Level IV | 558 | $23.57 \%$ |
| Engineer Level V | 520 | $17.99 \%$ |
| Engineer Level VI | 357 | $13.76 \%$ |
| Engineer Level VII | 273 | $14.44 \%$ |
| Engineer Level VIII | 85 | $9.86 \%$ |

EXHIBIT 48: PERCENTAGE OF ORGANIZATIONS USING CONTRACT/TEMPORARY/CONSULTING EMPLOYEES AS A PERCENTAGE OF TOTAL ENGINEERING WORKFORCE OF THE ORGANIZATION

|  | \# of <br> Responses | $\%$ of <br> Responses |
| ---: | ---: | ---: |
| None | 2,789 | $21.93 \%$ |
| $1 \%-4.9 \%$ | 1,995 | $15.68 \%$ |
| $5 \%-9.9 \%$ | 2,647 | $20.81 \%$ |
| $10 \%-24.9 \%$ | 1,465 | $11.52 \%$ |
| $25 \%$ or more | 1,116 | $8.77 \%$ |
| Unknown | 780 | $6.13 \%$ |
| 1,656 | $13.02 \%$ |  |

## Compensatory Time Off for Salaried/Exempt Engineers

EXHIBIT 49: PERCENTAGE OF PARTICIPANTS
THAT ARE SALARIED/EXEMPT* ENGINEERS

|  | \# of <br> Responses | $\%$ of <br> Responses |
| ---: | ---: | ---: |
| Entire Sample Combined | 11,248 | $88.4 \%$ |
| Engineer Level I | 296 | $70.3 \%$ |
| Engineer Level II | 485 | $76.6 \%$ |
| Engineer Level III | 841 | $80.4 \%$ |
| Engineer Level IV | 1,976 | $83.5 \%$ |
| Engineer Level V | 2,609 | $90.3 \%$ |
| Engineer Level VI | 2,447 | $94.3 \%$ |
| Engineer Level VII | 1,784 | $94.3 \%$ |
| Engineer Level VIII | 801 | $92.9 \%$ |

*Not paid an hourly rate and exempt from the provision of the Fair Labor Standards Act.

EXHIBIT 50: PERCENTAGE OF PARTICIPANTS ELIGIBLE
FOR OVERTIME PAY OR COMPENSATORY TIME OFF
(AS A PERCENTAGE OF INDIVIDUALS RESPONDING TO THE QUESTION)

|  | \# of <br> Responses | \% of <br> Responses |
| ---: | ---: | ---: |
| Entire Sample Combined | 3,982 | $31.3 \%$ |
| Engineer Level I | 134 | $31.8 \%$ |
| Engineer Level II | 233 | $36.8 \%$ |
| Engineer Level III | 392 | $37.5 \%$ |
| Engineer Level IV | 849 | $35.9 \%$ |
| Engineer Level V | 1,036 | $35.8 \%$ |
| Engineer Level VI | 740 | $28.5 \%$ |
| Engineer Level VII | 428 | $22.6 \%$ |
| Engineer Level VIII | 168 | $19.5 \%$ |

EXHIBIT 51: CIRCUMSTANCES UPON WHICH ORGANIZATIONS COMPENSATE EXEMPT ENGINEERS FOR WORKING OVERTIME (AS A PERCENTAGE OF ORGANIZATIONS GRANTING COMPENSATION UNDER ANY CIRCUMSTANCE)

|  | \# of <br> Responses | Worked <br> During Normal <br> Workweek | 6th <br> Workday | 7th <br> Workday | Holiday |
| ---: | ---: | ---: | ---: | ---: | ---: |
| Entire Sample Combined | 3,982 | $90.9 \%$ | $85.1 \%$ | $84.2 \%$ | $81.3 \%$ |
| Engineer Level I | 134 | $90.3 \%$ | $70.9 \%$ | $68.7 \%$ | $64.2 \%$ |
| Engineer Level II | 233 | $93.1 \%$ | $83.7 \%$ | $82.4 \%$ | $78.1 \%$ |
| Engineer Level III | 392 | $91.6 \%$ | $84.4 \%$ | $83.7 \%$ | $80.1 \%$ |
| Engineer Level IV | 849 | $92.1 \%$ | $87.8 \%$ | $88.0 \%$ | $80.7 \%$ |
| Engineer Level V | 1,036 | $91.4 \%$ | $85.9 \%$ | $84.5 \%$ | $83.2 \%$ |
| Engineer Level VI | 740 | $90.4 \%$ | $85.5 \%$ | $85.0 \%$ | $84.2 \%$ |
| Engineer Level VII | 428 | $86.9 \%$ | $83.2 \%$ | $81.3 \%$ | $81.5 \%$ |
| Engineer Level VIII | 168 | $89.9 \%$ | $85.1 \%$ | $82.7 \%$ | $81.0 \%$ |

EXHIBIT 52: TYPE OF COMPENSATION EXEMPT ENGINEERS RECEIVE FOR WORKING OVERTIME

|  | \# of <br> Responses | Cash Pay Only | Compensatory <br> Time Off | Cash Pay or <br> Time Off |
| ---: | ---: | ---: | ---: | ---: |
| Additional Hours in Normal Workweek | 3,620 | $49.7 \%$ | $29.0 \%$ | $21.4 \%$ |
| 6th Workday | 3,390 | $50.3 \%$ | $28.9 \%$ | $20.8 \%$ |
| 7th Workday | 3,352 | $50.3 \%$ | $28.7 \%$ | $21.0 \%$ |
| Holiday | 3,239 | $47.9 \%$ | $29.9 \%$ | $22.1 \%$ |

EXHIBIT 53: RATE PAID TO EXEMPT ENGINEERS FOR WORKING OVERTIME WHEN CASH IS PAID

|  | \# of <br> Responses | Less than <br> Straight <br> Time | Straight <br> Time | Time and <br> One-Half | Straight <br>  <br> One-Half <br> Normal <br> Workweek | Combo of <br> Double <br> Time | Comaight <br> Strand <br> anemium <br> Rate |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Additional Hours in Normal Workweek | 3,211 | $4.1 \%$ | $67.3 \%$ | $6.1 \%$ | $1.7 \%$ | $0.1 \%$ | $1.3 \%$ |
| 6th Workday | 3,030 | $3.7 \%$ | $63.2 \%$ | $6.3 \%$ | $1.6 \%$ | $0.1 \%$ | $1.3 \%$ |
| 7th Workday | 3,009 | $3.7 \%$ | $62.5 \%$ | $5.8 \%$ | $1.4 \%$ | $1.0 \%$ | $1.3 \%$ |
| Holiday | 2,967 | $3.4 \%$ | $59.3 \%$ | $5.7 \%$ | $1.4 \%$ | $3.0 \%$ | $1.7 \%$ |

## Registration

EXHIBIT 54: PERCENTAGE OF PARTICIPANTS THAT OBTAINED THEIR REGISTRATION AS A PROFESSIONAL ENGINEER IN 2011

|  | \# of <br> Responses | \% of <br> Responses |
| ---: | ---: | ---: |
| Entire Sample Combined | 787 | $6.2 \%$ |
| Engineer Level I | 5 | $1.2 \%$ |
| Engineer Level II | 23 | $3.6 \%$ |
| Engineer Level III | 93 | $8.9 \%$ |
| Engineer Level IV | 476 | $20.1 \%$ |
| Engineer LeveI V | 129 | $4.5 \%$ |
| Engineer Level VI | 39 | $1.5 \%$ |
| Engineer Level VII | 18 | $1.0 \%$ |
| Engineer Level VIII | 3 | $0.3 \%$ |

## Employer-Sponsored Benefit Plans

A standard set of benefits is provided to $56.67 \%$ of survey respondents, while the remaining $43.33 \%$ are provided with flexible or "cafeteria" benefits.

| EXHIBIT 55: BENEFITS PROVIDED TO SURVEY PARTICIPANTS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | rovided ponses) | Fully Employer Paid | Partially Employee Paid | Fully Employee Paid | Supplemental Coverage Option Offered | Family Coverage Option Offered |
| Retirement Plans |  |  |  |  |  |  |
| Defined Benefit Plan | 8,414 | 23.2\% | 76.8\% | NA | NA | NA |
| 401(k) Plan | 10,189 | NA | 80.9\% | 19.1\% | NA | NA |
| 403(b) | 553 | NA | 68.2\% | 31.8\% | NA | NA |
| Thrift Plan | 975 | 10.8\% | 61.6\% | 27.6\% | NA | NA |
| Profit Sharing Plan | 2,393 | 77.5\% | 17.6\% | 4.9\% | NA | NA |
| ESOP | 1,809 | 45.9\% | 33.7\% | 20.4\% | NA | NA |
| 457 Deferred Comp | 1,009 | 10.4\% | 18.6\% | 71.0\% | NA | NA |
| Money Purchase Plan | 137 | 33.6\% | 25.5\% | 40.9\% | NA | NA |
| Health and Welfare Plans |  |  |  |  |  |  |
| Life Insurance | 10,585 | 47.1\% | 45.3\% | 7.6\% | 40.1\% | 35.1\% |
| Short-Term Disability | 9,281 | 44.4\% | 37.9\% | 17.7\% | 27.3\% | NA |
| Long-Term Disability | 8,704 | 53.8\% | 31.7\% | 14.5\% | 23.2\% | NA |
| Medical Insurance | 12,015 | 13.3\% | 83.9\% | 2.7\% | 12.3\% | 58.1\% |
| Dental Insurance | 11,063 | 13.5\% | 77.4\% | 9.1\% | 11.4\% | 56.9\% |
| AD \& D Insurance | 7,377 | 40.1\% | 47.2\% | 12.7\% | 28.3\% | 28.2\% |
| Vision Insurance | 9,178 | 14.5\% | 73.4\% | 12.1\% | 11.5\% | 53.3\% |
| Retiree Medical Insurance | 2,334 | 10.8\% | 72.2\% | 17.1\% | 16.2\% | 42.5\% |
| Reimbursement Accounts |  |  |  |  |  |  |
| Dependent Care Costs | 5,940 | NA | 29.7\% | 70.3\% | NA | NA |
| Medical Costs | 7,427 | NA | 34.5\% | 65.5\% | NA | NA |

## DEMOGRAPHICS

1. Indicate your EEO classification. (check only one)
2. [ ] White (not of Hispanic origin)
3. [] Black
4. [] Hispanic
5. [ ] Asian or Pacific Islander
6. [ ] American Indian or Alaskan Native
7. [ ] Other (not adequately described above)
8. [ ] I prefer not to answer this question.
9. Indicate your gender (for statistical purposes only). (check only one)
10. [] Male
11. [ ] Female
12. [ ] I prefer not to answer this question.

## EXPERIENCE, EDUCATION, AND REGISTRATION/CERTIFICATION STATUS

1. Indicate the total number of years of professional experience you have had in the engineering field, including related managerial experience. (check only one)
2. [] Under 1 year
3. [] 1 year
4. [] 2 years
5. [] 3 years
6. [ ] 4 years
7. [] 5-9 years
8. [] $10-14$ years
9. [] $15-19$ years
10. [ ] $20-24$ years
11. [] 25-29 years
12. [ ] 30 years or more
13. Indicate your highest degree earned. Exclude honorary degrees. (check only one)
14. [ ] Less than a BA/BS Degree
15. [] BA Degree
16. [ ] BS Degree (non-engineering)
17. [ ] BS Degree (engineering)
18. [ ] MA/MS Degree (not MBA or engineering)
19. [ ] MBA Degree
20. [ ] MS Degree (engineering)
21. [ ] MBA and an MA or MS Degree
22. [ ] Doctorate (non-engineering)
23. [ ] Doctorate (engineering)
24. [ ] Other (please specify)
25. Indicate your licensing/certification status. (check only one)
26. [ ] No professional licensing or certification
27. [] Engineer-in-training/engineer intern
28. [ ] Professional Engineer (PE)
29. [ ] Professional Engineer (PE) and certification in environmental engineering
30. [ ] Professional Engineer (PE) and certification in forensic engineering
31. [ ] Professional Engineer (PE) and certification in some other engineering specialty (safety, fire protection, etc.)
32. [ ] Professional Engineer (PE) and Professional Surveyor (PS) or Land Surveyor (LS)
33. [ ] Professional Engineer (PE) and some other professional registration (RA, MD, CPA, Bar, etc.)
34. [ ] Other (please specify)
35. Did you become a Professional Engineer (PE, not any other certification) in 2003?.

## PROFESSIONAL RESPONSIBILITY

1. Which of the following best describes your current major branch of engineering work? (check only one)
2. [ ] Aeronautical/aerospace/ astronautical
3. [] Agricultural
4. [] Architectural
5. [] Biomechanical/ biomedical
6. [ ] Ceramic
7. [ ] Chemical
8. [] Civil
9. [] Coastal
10. [ ] Computer
11. [ ] Control systems
12. [] Corrosion
13. [ ] Cost management
14. [] Electrical
15. [] Electronics
16. [] Environmental
17. [] Ergonomics
18. [ ] Facilities
19. [ ] Fire protection
20. [ ] Forensic
21. [] Geotechnical
22. [] Health care facility
23. [ ] Heating, ventilating, air conditioning, and refrigeration
24. [] Industrial
25. [] Manufacturing
26. [] Marine
27. [] Materials
28. [ ] Mechanical
29. [ ] Metallurgy
30. [] Minerals and metals
31. [] Mining
32. [ ] Naval
33. [] Nuclear
34. [ ] Ocean
35. [] Optical
36. [ ] Petroleum
37. [ ] Plastics
38. [ ] Plumbing
39. [ ] Pollution
40. [] Quality assurance
41. [ ] Reliability
42. [] Robotics
43. [ ] Safety
44. [] Sanitary
45. [ ] Software
46. [] Structural
47. [ ] Systems
48. [ ] Transportation
49. [] Welding
50. Which one of the following best describes your current job function? (check only one)
51. [ ] Construction supervision (may include some design)
[] Consulting
[] Design
Drafting/estimating
52. [] Executive/administrative/legal
53. [ ] Production/quality management/maintenance/process control/performance/risk control/loss control/safety
54. [ ] Project management/engineering/operations
55. [ ] Planning/project study and analysis valuation/testing
56. [] Research and development/applications
57. [ ] Sales/marketing/public relations
58. [ ] Teaching/training/technical writing
59. [ ] Not-for-profit/public service
60. [ ] Other (please specify) $\qquad$
61. Select the statement which best describes your current supervisory status. (check only one)
62. [ ] I supervised engineers, scientists, and/or technologists (without significant involvement in directing the activities of clerical, construction, maintenance, or production employees).
63. [ ] I supervised clerical, construction, maintenance, and/or production employees (without significant involvement in directing engineers, scientists, and/or technologists).
64. [ ] I supervised the types of employees described above equally.
65. [ ] I had no consistent supervisory responsibility (staff engineering or specialist, consultant, etc.).
66. [ ] Other (please specify)
67. Indicate the number of employees you currently supervise (through subordinate supervisors) or direct. ... $\qquad$
68. Indicate which position best describes your current level of professional responsibility (as defined in the table on pages 5 and 6 ). (check only one)
69. [ ] Position Code: 1001, Engineer I/II
70. [ ] Position Code: 1003, Engineer III
71. [ ] Position Code: 1004, Engineer IV
72. [ ] Position Code: 1005, Engineer V
73. [ ] Position Code: 1006, Engineer VI
74. [ ] Position Code: 1007, Engineer VII
75. [ ] Position Code: 1008, Engineer VIII

## COMPENSATION

1. What is your current annual base salary from your primary full-time job? (Exclude fees, overtime pay, bonuses, and commissions. Also, exclude income from secondary employment such as part-time teaching, part-time consulting, etc.) \$
2. During the last calendar year, did you receive additional cash income from your primary job? (Additional cash income includes fees, bonuses, and commissions, and excludes salary, overtime pay, and income from secondary or part-time employment.)
(If no, go to question 4)
3. If yes, indicate the amount of additional cash income you received during the last calendar year. \$ $\qquad$ Report in whole numbers
4. Indicate the percentage increase in your annual base salary during the last calendar year. (check only one)
5. [ ] Not applicable (self-employed/ unemployed/retired/student)
6. [ ] Salary decreased
7. [ ] No change
8. [ ] Increased less than $2 \%$
9. [] Increased $2-2.9 \%$
10. [] Increased 3-3.9\%
11. [] Increased 4-4.9\%
12. [] Increased $5-5.9 \%$
13. [] Increased 6-6.9\%
14. [ ] Increased 7-7.9\%
15. [ ] Increased 8-8.9\%
16. [] Increased $9-10.9 \%$
17. [] Increased $11-12.9 \%$
18. [] Increased 13-14.9\%
19. [] Increased $15-16.9 \%$
20. [] Increased $17-18.9 \%$
21. [ ] Increased $19-20.9 \%$
22. [ ] Increased $21-22.9 \%$
23. [ ] Increased $23-24.9 \%$
24. [ ] Increased $25 \%$ or more
25. Were you promoted during the last calendar year? $\qquad$ Yes [] No []
26. Are you a salaried/exempt engineer (not paid an hourly rate and exempt from the provisions of the Fair Labor Standards Act)? $\qquad$ Yes [] No []
(If no, go to next section)
27. If yes, are you eligible for additional cash compensation or compensatory time-off for "overtime" hours worked under any circumstances?
28. Are "overtime" hours worked during the normal workweek (i.e., not holiday or weekends) included $\qquad$ Yes []
29. Indicate the type of compensation provided:
a. Type of Compensation

| (check only one per line) |
| :--- |

(check only one per line)

|  | Engineer Level I | Engineer Level II | Engineer Level III | Engineer Level IV |
| :---: | :---: | :---: | :---: | :---: |
| General Characteristics | Acquires limited knowledge and develops basic skills. <br> Applies prescribed techniques and procedures in accordance with established criteria to perform assigned tasks. <br> Performs routine technical work which does not require previous experience. <br> Acquires an understanding of professional and ethical responsibilities | Acquires basic knowledge and develops skills in a specific practice area. <br> Applies standard techniques, procedures, and criteria to perform assigned tasks as part of a broader assignment. <br> Exercises limited judgment on details of work and in application of standard methods for conventional work. | Develops broad knowledge and skills in a specific practice area. <br> Evaluates, selects, and applies standard techniques, procedures, and criteria to perform a task or sequence of tasks for conventional projects with few complex features. <br> Collaboratively uses judgment to determine adaptations in methods for non-routine aspects of assignments. <br> Works on small projects or portions of larger projects. | Applies broad knowledge of principles and practices in a specific practice area. <br> Independently evaluates, selects, and adapts standard techniques, procedures, and criteria. <br> Acquires general knowledge of principles and practices of related fields, and ability to function on multi-disciplinary teams. <br> Works on multiple projects of moderate size or portions of major projects. |
| Technical Responsibilities | Collects data and gathers information or documents. <br> Performs standard computations or analysis. <br> Prepares drawings and visual aids. <br> Observes construction activities. <br> Performs basic survey work. | Performs basic design tasks. <br> Assists on other tasks such as: preparation of permit applications, material testing, and CADD work. | Performs moderate design tasks. <br> Prepares portions of project documents. <br> Edits specifications. <br> Performs research and investigations. | Designs a complete project, system, component, or process. <br> Prepares complete project documents. <br> Designs and conducts experiments, and analyzes and interprets data. <br> Formulates and solves problems. |
| Managerial Responsibilities | No managerial responsibilities at this level. | Assigns tasks to and coordinates with technicians or administrative staff. | Assigns tasks to and coordinates work with entry-level engineers, technicians, or administrative staff. <br> Assists in determining schedule and budget requirements. | Assigns tasks to and directs engineers, technicians and administrative staff. <br> Plans and coordinates detailed aspects of the engineering work. <br> Prepares scopes, budgets, and schedules for assignments. <br> Assists with proposals to provide professional services or obtain funding for engineering projects or programs. |
| Direction Received | Receives close supervision on all aspects of assignments. | Receives close supervision on unusual or difficult problems, and general review of all aspects of work. | Receives instruction on specific objectives. <br> Receives direction on unconventional and/or complex problems, and possible solutions. <br> Receives a thorough review of completed work for application of sound professional judgment. | Receives general direction on key objectives. <br> Receives guidance when necessary on unconventional or complex problems, direction on modified techniques, and new approaches on assignments with conflicting criteria. |
| Communication Skills | Possesses basic oral and written communication skills. Interacts with other staff. | Interacts with staff, general public, officials, and contractors. | Possesses effective oral and written communication skills. <br> Assists with client, customer, or official contacts and communication pertaining to specific assignments or meetings. | Interacts with clients, customers, officials, contractors, and others. <br> Attends project meetings and presents specific aspects of engineering assignment. |
| Typical Titles | Engineer in Training, Engineer Engineering <br> Instructor | ing Intern, Assistant Engineer, | unior Engineer, Staff Engineer, | Civil Engineer, Associate Engineer, <br> Project Engineer, Resident <br> Engineer, <br> Assistant Professor |
| Equivalent Federal General Schedule | GS-5 | GS-7 | GS-9 | GS-11 |


|  | Engineer Level V | Engineer Level VI | Engineer Level VII | Engineer Level VIII |
| :---: | :---: | :---: | :---: | :---: |
| General Characteristics | Independently applies extensive and diversified knowledge of principles and practices in broad areas of assignments and related fields. <br> Uses advanced techniques in the modification or extension of theories and practices of sciences and disciplines to complete assignments. <br> Works on a major project or several projects of moderate scope with complex features. | Applies a thorough knowledge of current principles and practices of engineering as related to the variety of aspects affecting their organization. <br> Applies knowledge and expertise acquired through progressive experience to resolve crucial issues and/or unique conditions. <br> Keeps informed of new methods and developments affecting their organization, and recommends new practices or changes in emphasis of programs. <br> Works on programs of limited complexity and scope. | Uses creativity, foresight, and mature judgment in anticipating and solving unprecedented problems. <br> Makes decisions and recommendations that are authoritative and have an important impact on extensive organizational activities. <br> Sets priorities and reconciles directions from competing interests Works on programs with complex features. | Makes decisions with broad influence on the activities of their organizations. <br> Makes authoritative decisions and recommendations that are conclusive, and have a far-reaching impact on the organization. <br> Demonstrates a high degree of creativity, foresight, and mature judgment in planning, organizing and guiding extensive programs and activities of major consequence. |
| Technical Responsibilities | Reviews complete project documents for conformity and quality assurance. <br> Develops new techniques and/or improved processes, materials, or products. <br> Assists upper level management and staff as a technical specialist or advisor. | Serves as the technical specialist for the organization in the application of advanced concepts, principles, and methods in an assigned area. <br> Keeps informed of new developments and requirements affecting the organization for the purpose of recommending changes in programs or applications. <br> Interprets, organizes, executes and coordinates assignments. | Develops standards and guidelines. <br> Leads the organization in a broad area of specialization or in narrow but intensely specialized field. | Performs advisory or consulting work for the organization for broad program areas or an intensely specialized area with innovative or important aspects. <br> Performs advisory or consulting work for the organization for broad program areas or an intensely specialized area with |
| Managerial Responsibilities | Supervises all staff necessary to complete assignments. <br> Reviews and approves scopes, budgets, and schedules for assignments. <br> Prepares proposals to provide professional services or obtain funding for engineering projects or programs. | Supervises a staff of engineers and technicians. <br> Plans, schedules, or coordinates the preparation of documents or activities for multiple major projects, or is responsible for an entire program of an organization. <br> Reviews operational procedures to insure compliance with applicable policies and performance measures. | Supervises several organizational segments or teams. Recommends facilities, personnel, and funds required to carry out programs Oversees the technical, legal, and financial issues of an entire program. <br> Determines program objectives and requirements. <br> Develops standards and guidelines. | Leads an entire program of critical importance. <br> Decides the kind and extent of engineering and related programs needed for accomplishing the objectives of an organization. |
| Direction Received | Receives supervision and guidance relating to overall objectives, critical issues, new concepts, and policy matters. <br> Receives direction on unusual conditions and developments. | Receives administrative supervision with assignments given in terms of broad general objectives and limits. | Receives administrative <br> supervision with assignments given in terms of broad general objectives and limits. | Receives general administrative direction from a board of directors or regional council. |
| Communication Skills | Possesses advanced oral and written communication skills. Represents the organization in communications and conferences pertaining to broad aspects of engineering assignments. | Routinely interacts with clients, customers, officials, contractors, and others. <br> Leads project meetings and makes presentations. <br> Represents the organization and maintains liaison with individuals and related organizations. | Possesses exceptional oral and written communication skills. <br> Routinely interacts with organization leaders, clients, customers, officials, contractors, and others. <br> Initiates and maintains extensive contacts with key engineers and officials or other organizations and companies and is skilled in persuasion and negotiation of critical issues. | Negotiates critical and controversial issues with toplevel engineers and officers of other organizations and companies. <br> Conducts presentations and may participate in media interviews. Represents their organization at important functions or conferences, including media interviews as required. |
| Typical Titles | Senior Engineer, Project Manager, Associate Professor | Principal Engineer, District Engineer, Engineering Manager, Professor | Director, Program Manager, City Engineer, County Engineer, Division Engineer, Department Head, Vice President | Bureau Engineer, Director of Public Works, Dean, President |
| Equivalent Federal General Schedule | GS-12 | GS-13 | GS-14 | GS-15, Senior Executive Service (SES) |

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