

Employee Compensation Survey Methodologies Overview



This methodology overview is intended for the reader to use it with the 2022 Washington State Employee Compensation Survey State Report and 2022 WSECS applied range results.

How we choose states to participate in this survey

- We choose all states that fall within one standard deviation (+/-) of where Washington's survey data lands in specifically identified economic criteria (i.e. our state population number, how many people state government employs, regional price parities calculation – see more detail in the paragraph below).
- States within the western continental region

Economic criteria we use

1. 2020 population from Census Bureau midyear population estimate from Bureau of Economic Analysis SA1 tables
2. 2019 state government employment stats from BEA SA25N tables
3. 2019 regional price parities from BEA Regional Price Parities all items index (see definition below)

Geographic adjustments

We geographically adjusted the state government data that we used in the survey using the 2019 Regional Price Parities¹. **RPPs measures how much the price levels of goods and services differ geographically relative to the national average.** We express RPPs as a percentage of the overall national price level for each year, which is equal to 100. For example, if the RPP for area A is 120 and for area B is 90, then on average, prices are 20% higher and 10% lower than the U.S. average for A and B.

Published data sources

We used these published data sources to represent in-state private employers:

- Economic Research Institute 2021 Salary Assessor
- Milliman 2021 Northwest Engineering/Scientific/Project Management Survey
- Milliman 2021 Northwest Healthcare Compensation Survey
- Milliman 2021 Northwest Management and Professional Survey
- Milliman 2021 Northwest Technology Survey
- Milliman 2021 Northwest Utilities Salary and Wage Survey
- Milliman 2021 Puget Sound Regional Salary Survey
- PayFactors 2021 Compensation Database
- Salary.com 2021 CompAnalyst Database
- U.S. Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS) data, Washington state, May 2020

¹ https://www.bea.gov/newsreleases/regional/rpp/rpp_newsrelease.htm

Aging factors

We did not apply an aging factor to the custom survey data since the effective survey date was Oct. 1, 2021.

However, we aged all in-state private (published) market salary data to a common effective date, Oct. 1, 2021, using a factor of 2% per year. This factor reflects the median projected salary structure adjustment reported in WorldatWork's 2021-22 Salary Budget Survey for Washington employers. In other words, the 2% factor represents the prevailing market trend in salary growth from 2021 to 2022 among these employers.

Benchmark result calculations

We calculated the following summaries for salary data (which doesn't show specific participant data):

Median annual salary range minimum

Represents the middle salary rate of the minimum range data points, i.e., half the salary rates are below this level.

Annual salary range midpoint

Represents the estimated market value. Refer to the calculation methodology that we provided below.

Median salary maximum

Represents the middle salary rate of the maximum range data points, i.e., half the salary rates are below this level.

Salary range midpoint for each respondent

$(\text{Salary range minimum} + \text{salary range maximum})/2$

Estimated market value

We calculated an overall estimated market value using the aggregated salary data from each market sector we surveyed. Then, we calculated benchmark EMVs using the following approach:

1. In-state public sector: Median of the calculated range midpoint values for all benchmark jobs.
2. Other state governments: Median of the calculated range midpoint values for all benchmark jobs.
3. In-state private sector: Market median (50th percentile) of actual salary values for all benchmark jobs.

We combined the in-state public sector, other state governments and in-state private sector aggregates and averaged them to calculate the overall market information. We call this value the estimated market value.

We followed the Federal Trade Commission and the U.S. Department of Labor guidelines to use five or more responses from participants for each benchmark and benefit questions to draw reliable conclusions. Therefore, we did not calculate statistics (means, medians, etc.) for benchmark jobs with fewer than five job matches.

Total compensation calculations

The law requires the Office of Financial Management to conduct a salary and fringe benefits survey to reference when the state considers classification and salary schedules (RCW [41.06.160](#)). The Washington State Employees Compensation Survey includes the prevailing rates in other public employment and private employment in the state, and comparisons related to total compensation. For the 2022 survey, we calculated total compensation by benchmark job. **Total compensation is made up of three components:** estimated market value + health care value + retirement value.

Health care is subject to collective bargaining for most represented employee groups as part of a coalition of unions instead of with each exclusive representative. While retirement benefits in Washington are not subject to collective bargaining for most employees, these benefits are valuable components of total compensation and provide important context when we compare the state’s compensation practices with those of other governments or private employers.

1. Estimated market value

The estimated market value component reflects base compensation determined from participants and published in-state private sector market data as defined in the benchmark result calculations and information technology sections above.

2. Health care value

Health care is the “value received by the employee” and is how much you can expect your plan to pay for your health care costs. Health care value is *not* what the employee pays or what the employer pays for this plan.

For total compensation calculations, we found the health care value using:

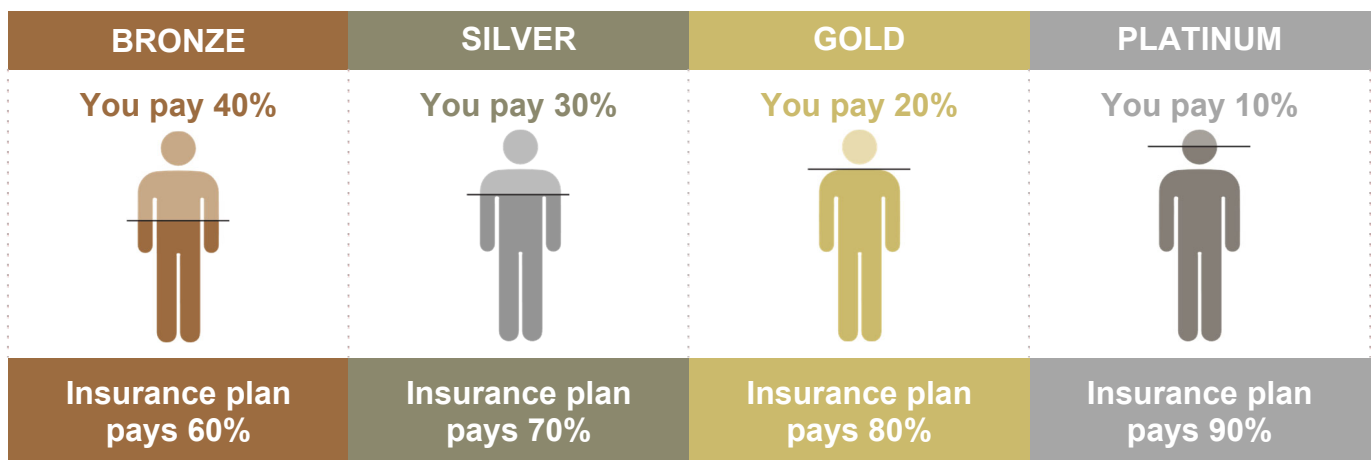
- Proxy health plan cost
- Participant reported Affordable Care Act (ACA) metal tiers

The 2021 Willis Towers Watson Health Care Financial Benchmarks and Network Efficiency Report reported \$13,870 as the 2020 PEBB plan member average health plan cost². We used this value as a proxy health plan cost to make our total compensation calculations.

Actuarial value is the estimated average percentage of total health care expenses that an employee can expect their plan to pay (health plan value). Metal tier (see image below) is a similar measure that the Affordable Care Act established to easily compare health plan value³.

We calculated health care value by multiplying the ‘proxy health plan cost’ by the ‘participant-reported ACA metal tier of their most populated health care plan’. (The metal tier definition is in the graphic below).

The key to understanding metallic tiers



<https://mnjinsurance.com/understanding-the-metal-levels-in-aca/>

For example, Washington’s 2021 PEBB health care plans are in the gold metal tier (80-89%) in the graph above.

² 2020 PEBB average actual health cost value as reported in the 2021 Willis Towers Watson Health Care Financial Benchmarks and Network Efficiency Report – PEBB, <https://leg.wa.gov/osa/additionalservices/Pages/Healthcare.aspx>.

³ <https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/ehb11202012a>

Example calculation:

2021 Washington employee health care value = \$13,870 (the average PEBB member plan value from the report) x 80% = \$11,096

3. Retirement value

We calculated the retirement value for participants based on a model developed in partnership with the Office of the State Actuary. This framework calculates the lump-sum present value for the retirement benefit that a participant earned, regardless of their retirement plan designs (e.g., defined-contribution, or DC), defined-benefit, or DB, or hybrid plans (see definitions above).

We used the median retirement value by benchmark job to make total compensation calculations.

We asked participants to report on their most populated retirement plan offered to new hires. This included DB, DC and hybrid plans. For this calculation, we used the following considerations/assumptions from the methodology that the State of Actuary uses.

DC plan, calculation method 1: The lump-sum present value of a DC benefit that the employer provides is the amount they contributed into the retirement account year.

As the percentage of private sector workers covered by a traditional DB pension plan has steadily declined over the past 25 years,⁴ we applied DC calculation methods to the in-state, private sector actual salary values.

As we described in the benchmark result calculations section above, we used published data sources to represent in-state, private employers for estimated market values. To follow suit, we gathered private sector retirement data for DC plans from the Milliman Northwest Benefits survey and applied the data as appropriate.

DB plan, calculation method 2:

1. We calculated a single-life annuity⁵ accrued for a single and current year of service. A typical DB plan is based on salary and a multiplier. For example, an EMV of \$50,000 accrues a \$1,000 single-life annuity under the Washington's Plan 2 formula for a single year of service credit. For example, $\$50,000 \times 2\% \times 1 \text{ year} = \$1,000$.
2. Then, we determine the portion of that single-life annuity that the employer paid based on the plan's cost-sharing policy. We multiply the accrued single-life annuity value (\$1,000 for this example) by the employer cost-sharing percentage to calculate the amount of the annuity value that the employer paid. Washington's Plan 2 cost-share formula is 50% paid by the employer and 50% paid by the employee. For example, $\$1,000 * 50\% = \500 .
3. Then, we multiply the employer-funded dollar amount of the single life annuity (\$500 for this example) by the relevant annuity factor developed and certified by the Office of the State Actuary according to actuarial standards.⁶ The OSA annuity factors determine the lump-sum present value amount. For example, $\$500 \times \text{Annuity factor of } 13.082228 = \$6,541$.

⁴ <https://www.ssa.gov/policy/docs/ssb/v69n3/v69n3p1.html>

⁵ A single-life annuity is a periodic benefit payment paid over the life of a plan member.

⁶ An annuity factor can estimate the value of a lifetime benefit in today's dollars. It requires assumptions such as how long the benefit will be paid and how investment income will be earned each year to make all future payments. In short, annuity factors represent how much money is needed today to pay \$1.00 per year for the rest of a member's life, starting at the normal retirement age, if all the assumptions are realized.

- a. The Annuity factor is determined from various inputs:
 - i. The participant's typical cost of living adjustment percentage, i.e., the typical percentage increase in a retiree's post-retirement pension benefit per year
 - ii. The participant's normal retirement age
 - iii. A current age assumption of 46 years
 - iv. An assumed investment rate of return with a 3% risk-free assumption⁷

Hybrid plan (DC, DB), calculation method 3, hybrid plan: In the case of a hybrid plan, we calculate the DC lump-sum present value amount (see DC plan, calculation method 1 above) and the DB lump-sum present value amount (see DB plan, calculation method 2 above). The sum of those amounts is the lump-sum present value amount.

Job classifications excluded from this year's survey

- Represented University of Washington classifications that the general government or other higher education institutions do not use and that are independently surveyed by the University of Washington.
- Apprentice jobs that are paid a percentage of the journey-level job.
- Certificated teacher jobs that are required to be paid the same as the current salary ranges in the Vancouver School District No. 37 professional salary schedule.

⁷ Derived from the returns of a 30-year U.S. treasury bond. While this rate fluctuates, the Office of State Actuary believes 3% to be a reasonable current proxy for a risk-free rate of return when the returns for the past 10 years are considered.

Definitions

% responses – Ratio of number of responses/total number of survey participants

Defined-benefit plan – An employer-sponsored retirement plan where employee benefits are computed using a formula that considers several factors, such as length of employment and salary history. The employer administers portfolio management and investment risk for the plan. There are also restrictions on when and by what method an employee can withdraw funds without penalties. Benefits paid are typically guaranteed for life and rise slightly to account for increased cost of living.

Defined-contribution plan – A type of retirement plan in which the employer, employee or both contribute on a regular basis. Individual accounts are set up for participants and benefits are based on the amounts credited to these accounts through employee contributions and, if applicable, employer contributions, plus any investment earnings on the money in the account.

Hybrid plan – Any retirement plan that combines some elements of a traditional defined benefit pension plan and a defined contribution plan with an individual retirement savings account to which the employee and employer contribute money.

In-state private sector – Refers to published survey data.

In-state public sector participants – Refers to all in-state Washington participants who submitted responses to the custom survey.

Market – Refers to the combination of in-state public sector participant responses, other state government participant responses and in-state private sector data. See benchmark result calculations and total compensation calculations below for additional information.

Mean – The value obtained by adding a set of numbers and then dividing the sum by the number of items in the set.

Median – The middle value in a set of ranked data points, i.e., half the data points are below this level.

Nonrepresented – Responses related to employees who are not represented by a labor organization.

Number of no responses – Number of participants who did not respond to the survey question.

Other state governments – Refers to out-of-state custom survey participants, i.e., state government participants who submitted responses to the custom survey.

Total compensation – Base compensation plus the employee dollar value of health care and retirement benefits. See total compensation calculations below for additional information.

Union Represented – Responses related to employees represented by a labor organization.