# 2020 Washington State Employee Compensation Report Methodologies Overview

*This methodology overview is intended for use in conjunction with the 2020 Washington State Employee Compensation Report.*

## Definitions

\# – Number of survey responses

% 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 employer-provided 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.

## State governments selection

- All states that fall within one standard deviation (+/-) of the numeric value calculated for Washington for the identified economic criteria
- States within the western continental states region

**Economic criteria**
1. 2018 population from Census Bureau midyear population estimate via Bureau of Economic Analysis SA1 tables
2. 2017 state government employment from BEA SA25N tables
3. May 2016 regional price parities from BEA Regional Price Parities all items index

## Geographic adjustments

State government data used in the survey were geographically adjusted using the May 2017 Regional Price Parities[1]. RPPs measure geographic differences in the price levels of consumption goods and services relative to the national average. RPPs are expressed as a percentage of the overall national price level for each year, which is equal to 100.

The RPPs are calculated using price quotes for a wide array of items from the Consumer Price Index, which are aggregated into broader expenditure categories (such as food, transportation or education).[2] Data on rents are obtained separately from the Census Bureau's American Community Survey. The expenditure weights for each category are constructed using CPI expenditure weights, BEA's Personal Consumption Expenditures and ACS rents expenditures.[3]

The broader categories and the data on rents are combined with the expenditure weights using a multilateral aggregation method that expresses a region's price level relative to the United States.[4]

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, respectively. If the personal income for area A is $12,000 and for area B is $9,000, then RPP-adjusted incomes are $10,000 ($12,000/1.20) and $10,000 ($9,000/0.90), respectively. In other words, the purchasing power of the two incomes is equivalent when adjusted by their respective RPPs.

## Published data sources

These published data sources were used to represent in-state private employers:

- CompAnalyst – Salary.com

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[1] https://www.bea.gov/newsreleases/regional/rpp/rpp_newsrelease.htm
[2] The BEA Regional Price Parity statistics are based in part on restricted access Consumer Price Index data from the Bureau of Labor Statistics. The BEA statistics expressed herein are products of BEA and not BLS.
[3] To estimate RPPs, CPI price quotes are quality adjusted and pooled over five years. The ACS rents are also quality adjusted and are either annual for states or pooled over three years for metropolitan areas. The expenditure weights are specific to each year.
[4] The multilateral Geary additive method is used. Any region or combination of regions may be used as the base or reference region without loss of consistency.

- Economic Research Institute
- Milliman 2019 Northwest Benefits Survey
- Milliman 2019 Northwest Engineering/Scientific/Project Management Survey
- Milliman 2019 Northwest Financial Industry Compensation Survey
- Milliman 2019 Northwest Healthcare Compensation Survey
- Milliman 2019 Northwest Management and Professional Survey
- Milliman 2019 Northwest Utilities Salary and Wage Survey
- Milliman 2019 Puget Sound Regional Salary Survey
- Payfactors

## Aging factors

No aging factor was applied to the custom survey data as the effective date of the survey was July 1, 2019.

All in-state private (published) market salary data were aged to a common effective date, July 1, 2019, using the state of Washington private sector market trend from the 2019-2020 WorldatWork Salary Budget Survey. The prevailing state of Washington private sector market trend for general wage increases is 3% per year for salary ranges. In other words, 3% is the adjusted percentage change in wage rates to reflect movement in the market place.

## Benchmark result calculations

The following aggregate statistical summaries were calculated for salary range 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 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**
(Salary range minimum + salary range maximum)/2

**Estimated market value**
An overall estimated market value was calculated using the aggregated salary data from each market sector surveyed. Benchmark EMVs were calculated 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.

The in-state public sector, other state governments and in-state private sector aggregates were combined and averaged to calculate the overall market information. This value is referenced as the estimated market value.

We followed the Federal Trade Commission and the U.S. Department of Labor guidelines that five matches

should exist per job or benefit questions to draw reliable conclusions. Therefore, we did not calculate statistics (means, medians, etc.) for benchmark jobs with fewer than five job matches.

## Information Technology Survey

State Human Resources conducted a market analysis for IT classifications. Various published salary surveys from in-state public and in-state private organizations across multiple industries were used in the analysis of base compensation.

**Geographic adjustments**

Published surveys used data gathered from survey participants in Washington. In the event that published data sources lack data from Washington, a United States-wide value was collected and adjusted using the geographic adjustment methodology above.

**Published data sources**

These published data sources were used to represent the labor market:

- 2019 Mercer/Gartner Information Technology Survey
- Economic Research Institute
- CompAnalyst – Salary.com
- Milliman 2019 Northwest Technology Survey
- Payfactors

**IT survey update factor**

All published market salary data were aged to a common effective date, July 1, 2019, using the aging factors methodology above.

**Estimated market value**

An overall estimated market value was calculated using available survey data. This was calculated using an average of median values from available salary surveys for all benchmark jobs.

## Total Compensation Calculations

RCW 41.06.160 requires the Office of Financial Management to conduct a salary and fringe benefits survey for use in considering classification and salary schedules. The State Survey includes the prevailing rates in other public employment and private employment in the state of Washington, and comparisons related to total compensation. For the 2020 State Survey, total compensation was calculated by benchmark job and comprises three components.

**Total compensation calculation:** 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 comparing the state of Washington'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 survey 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

The health care value component reflects the employer's share of total costs for medical coverage. State HR used the overall database figure from the Willis Towers Watson High Performance Insights in Health Care survey for total compensation calculations.

State HR will use the WTW survey for the following reasons:

- Credibility: Since 2015, the Washington State Legislature and Office of the State Actuary have used the WTW survey to benchmark Washington state's health care plans against other employers.
- Superior insight into prevailing rates:
  - ➢ In the past, State HR surveyed the cost share of monthly premiums between the employer and the employee, along with the Affordable Care Act metal tier, or plan actuarial value, which categorizes how organizations' plans split the costs of health care.
  - ➢ WTW collects and reports on out-of-pocket expenses for health care. In the past, State HR has not been able to survey theses expenses due to infeasibility.
  - ➢ The WTW survey analyzes actual historical medical claims data from Washington, compared to a large data set of other actual claims data. This approach provides a concrete look back at what employers and employees paid for contributions and out-of-pocket expenses.
- Reliability: State HR's past approach for collecting the cost share of monthly premiums and actuary values often resulted in missing or incomplete responses. WTW's survey product will remedy State HR's difficulty in surveying meaningful data.
- WTW expertise: WTW is an international actuarial and consulting firm. The WTW survey (2019) evaluates health plans on how efficiently they perform by adjusting cost data for plan design, demographics, and geographic cost differentials (Survey Overview, p. 1). This helps employers understand how well their plans are performing on an apples-to-apples basis.
- Leverage WTW's data-sharing and security agreements: Through data-sharing agreements and security protocols, WTW collects claims data in accordance with laws protecting personally identifiable health information. State HR will benefit from WTW's data-sharing agreements and security protocols in use of the survey.
- Data available by economic sector: Data from the survey's various economic sector groupings were cited, e.g., government/public/education, in-state private organizations, Washington State Health Care Authority and overall database.

## 3. Retirement value

The retirement value was calculated for survey 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 earned, regardless of various participants' plan designs, e.g., defined-contribution, or DC; defined-benefit, or DB;, or hybrid plans (see definitions above).

The median retirement value by benchmark job was used for total compensation calculations.

Survey participants were asked to report on their most populated retirement plan offered to new hires, including DB, DC and hybrid plans. The framework's calculations use the following considerations/assumptions:

**Calculation method 1, DC plan:** The lump-sum present value of a DC benefit provided by the employer is the amount contributed into the retirement account by the employer in a given year.

As the percentage of private sector workers covered by a traditional DB pension plan has been steadily declining over the past 25 years,[5] DC calculation methods were applied to the in-state private sector actual salary values, as described in the benchmark result calculations section above.

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

**Calculation method 2, DB plan:**
1. A single-life annuity[6] accrued for a single and current year of service was calculated. 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 x 2% x 1 year = $1,000.
2. Determine the portion of that single-life annuity paid by the employer based on the plan's cost-sharing policy. Multiply the dollar value of the accrued single-life annuity by the employer cost-sharing percentage. This product represents the amount of the annuity paid for by the employer. Washington's Plan 2 formula's provides that the employer pay for half of the annuity. For example, $1,000 * 50% = $500.
3. Multiply the employer-funded dollar amount of the single life annuity calculated in step 2 by the relevant annuity factor.[7] Annuity factors are simply values used in this method to determine the present value amount and are developed and certified by the Office of the State Actuary according to actuarial standards. For example, $500 x Annuity factor of 13.435282 = $6,718.
   a. The Annuity factor is determined from various inputs:
      i. Survey participants' typical cost of living adjustment percentage, i.e., the typical percentage increase in a retiree's post-retirement pension benefit per year
      ii. Survey participants' normal retirement age
      iii. A current age assumption of 47 years
      iv. An assumed investment rate of return with a 3% risk-free assumption[8]

**Calculation method 3, hybrid plan**: In the case of a hybrid plan, the DC amount from calculation method 1 is added to the DB amount from calculation method 2.

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[5] https://www.ssa.gov/policy/docs/ssb/v69n3/v69n3p1.html
[6] A single-life annuity is a periodic benefit payment paid over the life of a plan member.
[7] 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 in order 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.
[8] 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.