



State of
COLORADO

Annual Compensation Report

FY 2018-19



COLORADO

Department of Personnel
& Administration

September 15, 2017

Honorable John Hickenlooper
Governor of Colorado
136 State Capitol Building
Denver, Colorado 80203

Honorable Senator Kent Lambert
Chair, Joint Budget Committee
Colorado General Assembly
200 East 14th Avenue
Denver, Colorado 80203

Dear Governor Hickenlooper and Senator Lambert,

In accordance with C.R.S. 24-50-104(4), the State Personnel Director (Director) is required to submit an Annual Compensation Report for annual adjustments to the State of Colorado's (State) total compensation package. The Department of Personnel & Administration (Department) prepares these findings with data from private and public organizations to compare the total and component values and costs.

In order to support the development of this report, the Department contracts with a third-party compensation consultant with actuarial experience every other year to perform the total compensation study. This study must compare total and component costs, and values of the State's total compensation against similar workforce structures, including private companies and other states. For this year's report, the State retained Arthur J. Gallagher & Co. (Gallagher) to conduct the annual compensation study for FY 2018-19.

The Department addressed issues raised in the Office of the State Auditor's (OSA) performance audit of the Department's FY 2016-17 and FY 2017-18 Annual Compensation Reports. The Department agrees with the OSA's recommendations and has implemented these recommendations to improve oversight and reliability of this and future annual compensation reports.

The State's policy is to provide prevailing total compensation, including pay and group benefit plans, in order to recruit, reward and retain a qualified workforce. The Director's priorities are as follows:

- i. Establish a total compensation package consistent with prevailing practices within the market;
- ii. Move employees in the workforce whose salary is below market toward the prevailing market median level; and
- iii. Reward employees in the workforce who are meeting or exceeding performance expectations.

TOTAL COMPENSATION FINDINGS

When the State's total compensation package is valued, Gallagher's findings suggest that this variance is 5.5% below the prevailing market. Currently, on average, base pay accounts for 76.1% of the total compensation package and benefits account for the remaining 23.9%.

Currently, the State compensation philosophy targets a variance of +/-7.5% in base salaries from the market to be competitive, which is in alignment with professional standards. Variances with the market greater than +/- 7.5% require an internal and external review of the classification for potential misalignment.



Survey data, aged to a common point in time, was used to compare the State's actual salary practice to the market. Gallagher's findings suggest that as a result of the State's pay practices, base salaries of State employees are, on average, 6.3% below prevailing market rates.

Base Salary

In determining the competitive nature of the current pay structure and the base salaries of State employees, the following variance guidelines were used by Gallagher:

- +/-5% = Highly Competitive
- +/-10% = Competitive
- +/-10-15% = Possible misalignment with market
- >15% = Significant misalignment with market

Overall, actual base salaries for State employees are 6.3% below market median. Variations for specific occupational groups are listed in the table below.

State Average Base Salary Comparison with Market Average Actual (Base) Salary			
Occupational Group		% Difference from Market Median	Comparison with Market
A	Enforcement and Protective Services	13.5%	review positions for potential misalignment
C	Healthcare Services	-7.1%	within competitive range
D	Labor, Trades and Crafts	-7.3%	within competitive range
G	Administrative Support and Related	-10.4%	review positions for potential misalignment
H	Professional Services	-7.1%	within competitive range
I	Physical Science and Engineering	-5.9%	within competitive range
T	Information Technology	-4.9%	within highly competitive range

Merit Pay

The Colorado Constitution established a State Personnel System based on merit and fitness (C.O. Const. art. XII, §13). Pursuant to C.R.S. 24-50-104(1)(c), the Director established a merit pay system for employees in the State Personnel System for the purpose of providing salary increases based on individual employee performance. Awards of merit pay increases are based upon priority groups and are defined in a matrix.

Similar to prior years, delivering performance based pay continues as the prevailing practice in the market. This method of pay increase meets the State's goal of rewarding employees who are meeting or exceeding performance expectations. The merit-based approach affords lower paid, high-performing employees greater opportunity to work toward the prevailing pay rate (midpoint of the range). Individual merit pay does not replace salary survey market adjustments to job classifications. Merit pay may be a base or non-base building increase.

Individual employee pay is projected to increase by 3% in the market. As a result of the trend analysis and market pay projections, the State should continue to consider offering pay increases through merit; an average 3% merit adjustment may be warranted. Overall, FY 2018-19 salary increase projections in the market are summarized below:

Survey Source	FY 2018-19 Base Salary Projections
Economic Research Institute*	3.2% (did not specify mean or median)
WorldatWork Salary Budget Survey**	3.0% (median)
Custom Survey	Insufficient responses (Less than 5 participant organizations responded to pay increase projections for upcoming FY 2018-19.)

*ERI Global Salary Increase Projections for 2018 <http://www.eri.com/infographic/globalsalaryincreaseprojectionsfor2018>

** WorldatWork Salary Budget Survey 2017-18 Top Level Results <https://www.worldatwork.org/adim/pub/2017-2018-top-level-results.pdf>

Salary Range Structure

Gallagher compared the State's overall classified salary structure for benchmark jobs with the overall market pay grade average at range minimum, midpoint, and maximum. Overall, the State is highly competitive with the market average range minimum, midpoint, and maximum. The State's salary structure is highly competitive with the overall average structure midpoint at 1.1% above market.

In order to maintain the State's current salary structure, the State may consider an overall salary range structure adjustment by increasing range minimums and range maximums by 2%. This is the market trend factor for FY 2017-18. Increasing the salary range structure by the 2% market movement trend factor ensures that pay ranges remain competitive with market. An increase would not result in a corresponding change in salary for individual employees, unless the employee's salary falls below the new minimum of the pay range. This adjustment would allow the State to keep pace with projected market structure increases.

Total Cash & Incentive Pay

The State provides non-base cash incentives for meeting pre-determined performance criteria. Because the State does not have a formal incentive plan with fixed percentages, it is difficult to compare a calculated Total Cash with market Total Cash Value compensation. However, it is necessary for the State to recognize the 2.5% average market incentive present outside of the public sector and the relationship of incentive pay to other elements of total compensation.

Premium Pay

The State also permits shift differentials and on-call pay for eligible classifications. Gallagher found this practice to be consistent with the market. Rates for premium pay vary widely in the market.

State Patrol Pay

Pursuant to C.R.S. 24-50-104(1)(a)(III)(A) Gallagher identified the three highest paid law enforcement jurisdictions in Colorado and compared to individual classifications in the State Patrol Class Series. To maintain the required 99% of market compensation, no adjustments are recommended at this time. Overall, the State Trooper classifications are competitive with the market at 6.6% below market median.

BENEFITS FINDINGS

Valuation

In order to provide a more holistic assessment of the value provided by employers participating in the survey, Gallagher collected enrollment and employer contribution data for all medical plans as opposed to collecting data for only the most populated plan. Gallagher calculated the relative value of each of the medical plan option offered by employers, using the Centers for Medicare & Medicaid Services (CMS) Minimum Value Calculator, which provides an actuarial value for each of the respective plans. The actuarial value is the best indicator of plan cost, as it represents a normative plan cost (after employee cost share) for every dollar of healthcare. The relative value of each participant compared to the State was then used to adjust the employer contributions to arrive at an adjusted employer contribution, depicting an overall effective employer contribution.

Benefits comprise 32.9% of the State's compensation package; the overall value of benefits is 0.1% above the prevailing market median. The State's retirement plan value is 9.9% above the market, inclusive of Social Security.

TOTAL COMPENSATION ANALYSIS

The Department recognizes the importance of evaluating the overall value of total compensation in order to assess the competitiveness of the State's total compensation package. While the value of the State's total compensation package is competitive with the market, maintenance is required to sustain that acceptable variance.

The individual components of the compensation package evaluated in this year's annual compensation report indicate adjustments of 2% to the State's overall salary range structure, adjustments to actual base salaries to all or priority occupational groups, and projected cost increases to benefits may be considered. These changes will be necessary to continue relative alignment of the total package and to address misalignment of specific components with prevailing levels in the market.

The Department will continue to work closely with the Governor's Office of State Planning and Budgeting to develop a recommendation for the appropriate amount of funding for any annual salary and benefit increases for FY 2018-19. The final recommendation must consider the results of the annual compensation survey, fiscal constraints, and the ability to recruit and retain State employees. The recommendation will be submitted for consideration in the Governor's November 1 Budget Request for FY 2018-19.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "June Taylor", with a stylized flourish at the end.

June Taylor
Executive Director of the Colorado Department of Personnel & Administration and
State Personnel Director

cc: Joint Budget Committee Members, Cabinet Members, Higher Education Presidents, John Ziegler,
Alfredo Kemm



COLORADO

**Department of Personnel
& Administration**

June Taylor

State Personnel Director and Executive Director

Kara Veitch

Deputy Executive Director

Kim Burgess

Statewide Chief Human Resources Officer

About this Report:

The State of Colorado (State) FY 2018-19 Annual Compensation Report includes survey findings prepared by Arthur J. Gallagher & Co. (Gallagher) with assistance from the Department of Personnel & Administration (Department), Division of Human Resources (Division). Data from private and public organizations is used to compare the **total and component costs, and values of the State's total compensation package.**

Adjustments to the State's salary structure or components of total compensation are subject to approval and funding by the Governor and General Assembly. Following the legislative process, the State Personnel Director (Director) will announce the final annual compensation adjustments to compensation and benefits for July 1, 2018 implementation.

In order to support the development of this report, the Department contracts with a third-party compensation consultant with actuarial experience every other year to perform the total compensation study. This study must compare total and component costs and values of the State's total compensation against similar workforce structures, including private companies and other states. For this year's report, the State retained Arthur J. Gallagher & Co. (Gallagher) to conduct the annual compensation study for FY 2018-19 and compare the value of the total compensation package provided to State employees to market. This report includes relevant findings and analysis from Gallagher.

Overall, Gallagher found the State's total compensation package is slightly below the prevailing market. The State's total compensation package is estimated to lag the market by 5.5%, which is within the acceptable variance as outlined on page 9 of this report.

Base salary accounts for 76.1% of the State's total compensation. When compared to the market, median base salaries of employees are, on average, 6.3% below market median.

Benefits (medical, dental, life, disability, and retirement) account for 23.9% of the State's total compensation, as compared to 22.6% for the prevailing market. Specifically, medical, dental, life, long-term disability benefits and accidental death and dismemberment insurance account for 12.1% of the State's total compensation. Retirement accounts for 11.8% of the State's total compensation and is 9.9% higher than market retirement plans as a percent of annual salary, inclusive of Social Security.

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FY 2018-19 Annual Compensation Report

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FY 2018-19 Annual Compensation Report

Introduction

State employees are the cornerstone for delivering efficient, effective and elegant service to Colorado residents and visitors. To ensure the State of Colorado is able to recruit and retain a strong workforce, Colorado Revised Statute (C.R.S.) 24-50-104, requires the Department of Personnel & Administration to conduct an annual study that evaluates prevailing total compensation practices, levels and cost.

The State Personnel Director is required to provide an annual compensation report that reflects adjustments that may be required to maintain the salary structure, prevailing State contributions for group benefit plans, base salary adjustments and merit pay for the upcoming fiscal year, July 1 through June 30. The report must be based on an annual study of total compensation in the market. This report is provided for FY 2018-19 compensation structure and adjustments.

The Department agreed with the findings and recommendations of the Office of the State Auditor's June 6, 2017 Performance Audit of the Department of Personnel & Administration's annual compensation reports. The State has contracted with a new vendor and executed the recommendations for the FY 2018-19 study and report, which will be used as a baseline for future studies.

The implementation of these recommendations can be seen in the following methodology adjustments:

- Relevant labor market data - public and private employees, local, state and regional were used in the analysis
- Recent data - 2016-17 surveys were used
- Consistent aging and geographical adjustments
- All relevant forms of total compensation - base pay, incentives, premium pay, benefits and leave were all included in the analysis
- Five employer matches were made for each benchmark class

Philosophy

Prevailing Total Compensation

The State of Colorado's compensation philosophy is defined in C.R.S. 24-50-104 and requires the State to provide **prevailing total compensation** to ensure that the State is able to recruit, reward and retain a qualified workforce.

Total compensation is a combination of base salary and all employee benefits; this includes both direct and indirect compensation.

- Direct compensation refers to an employee's annual base salary. It does not include shift differential, overtime pay or call-back pay. For the purpose of this report annual base salary is analyzed using the average of *actual* salaries (not salary ranges).
- Indirect compensation refers to compensation that is not paid directly to an employee. Indirect compensation includes medical, dental, disability, life insurance, and accidental death and dismemberment insurance, retirement, as well as additional benefits identified for employees.

Colorado Revised Statute (24-50-104) Job Evaluation and Compensation

C.R.S. 24-50-104

(1) Total compensation philosophy. (a) (I) It is the policy of the state to provide prevailing total compensation to officers and employees in the state personnel system to ensure the recruitment, motivation, and retention of a qualified and competent work force. For purposes of this section, "total compensation" includes, but is not limited to, salary, group benefit plans, retirement benefits, merit pay, incentives, premium pay practices, and leave. For purposes of this section, "group benefit plans" means group benefit coverages as described in section 24-50-603 (9).

Methodology & Data Sources

Survey Methodology

Gallagher completed this total compensation study in accordance with the State's priorities:

- Establish overall pay and benefits consistent with prevailing practices in the market
- Move employees in the workforce whose salary is below market toward midpoint
- Reward employees in the workforce who are meeting or exceeding performance expectations

Survey Benchmarks

The annual survey process begins with identifying the core group of jobs within the State's personnel system to be used as benchmarks for conducting salary data comparisons with other employers in the market. Benchmark jobs are State jobs that are comparable to those readily identifiable and commonly found in the marketplace. Benchmark jobs are used to compare the State's salaries in relationship to the market and to validate the State's internal pay structure. They were selected using the following guidelines for benchmark selection:

- Representation of all jobs families and levels throughout the organization
- Highly populated jobs
- Jobs found in most organizations
- Jobs with recruitment and retention problems

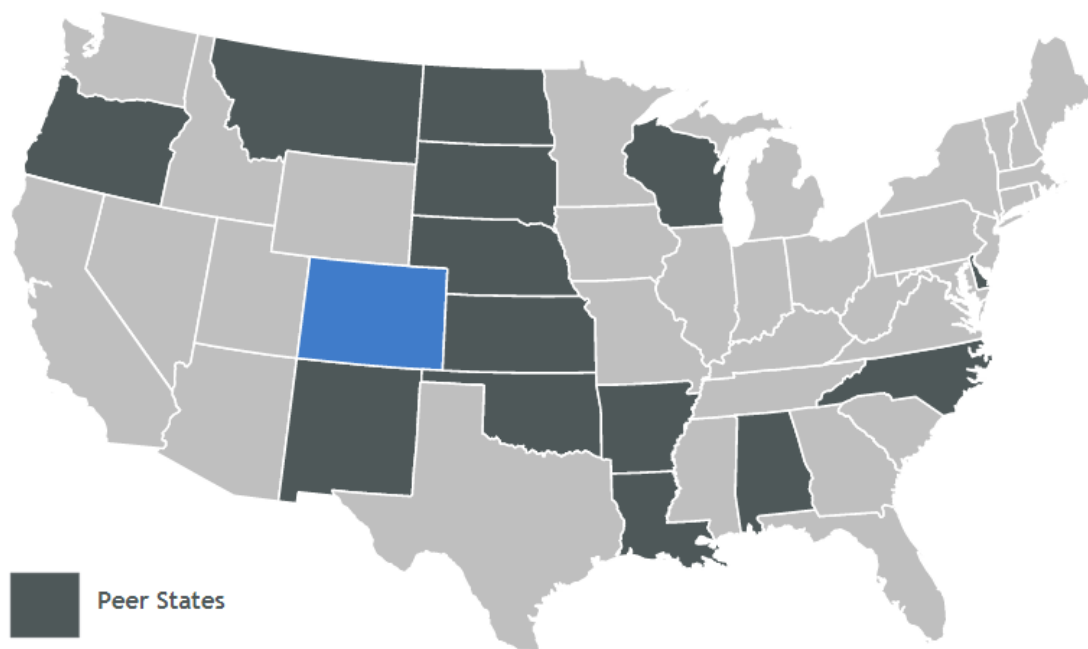
Data was collected for 226 benchmark jobs, or 34% of the State's 667 classifications. This number of benchmarks is sufficient to establish a valid representation of the State's jobs in comparison to the market. The final 226 benchmark jobs represent 58% of the overall employee population for classified jobs. For the complete list of benchmark jobs refer to page 1 of the Appendix.

Labor Market

The survey process requires defining the relevant labor market for collecting and comparing prevailing salary and benefits data, market trends, and salary budget planning information. The State's primary labor market, as mandated by C.R.S. 24-50-104(4)(a), includes both public and private sector employers and jobs including areas outside of the Denver metropolitan area. In addition, the State also collects data from employers outside Colorado when insufficient data is available within the state, for those benchmark jobs specific to state government. Gallagher defined the primary labor market for collecting and comparing prevailing salary and benefits data, market trends and salary budget planning information, including private and public sector employers.

The State established a set of peer states for collecting and comparing prevailing market salary data. The states are comparable in terms of geographical area, population, budget size, and jobs.

Peer States		
State of Alabama	State of Montana	State of Oklahoma
State of Arkansas	State of Nebraska	State of Oregon
State of Delaware	State of New Mexico	State of South Dakota
State of Kansas	State of North Carolina	State of Wisconsin
State of Louisiana	State of North Dakota	



In the FY 2018-19 study, the primary labor market is defined to include the complete labor market which represents both public (government and state organizations) and private (local, state, and regional market) sectors.

Survey Sources

Pursuant to C.R.S. 24-50-104 (4)(a), the annual compensation study is based on an analysis of surveys published by public or private organizations that include a sample of public and private sector employers. Gallagher utilized published survey sources to gather market data for both public and private sector, identifying and approving survey sources in accordance with the following criteria:

- Surveys are conducted by a reputable salary survey firm
- Survey data is not self-reported
- Surveys are conducted on a continual basis instead of a one-time event
- Survey reports its data sources, the effective date of the data, and was tested to ensure accurate matches and data
- Surveys are less than two years old

It is Gallagher's practice to utilize surveys that are less than two years old. For this report, all data was aged to July 1, 2018 using standard aging factors described in the sections below. The National Compensation Association of State Government (NCASG) survey was primarily used to gather salary data for the 14 state organizations represented in the FY 2016-17 peer states list.

Survey data from the Economic Research Institute (ERI) database was used to supplement salary information in situations where there were no suitable job matches from other survey sources (Compdata, Mercer, Mountain States, and Willis Towers Watson). For details on survey participation refer to page 5 of the Appendix.

Published Surveys Used for Market Salary Comparison

CompData Benchmark Pro 2016 West Region
Mercer 2016 Finance, Accounting, and Legal Survey
Mercer 2016 Information Technology Survey
Mercer 2016 South Central Survey
Mercer 2016 Health Plan Operations Survey
Mercer 2016 Healthcare Provider Individual Contributors Survey
Mountain States 2016 Employers Council (MSEC) Colorado Benchmark Compensation Survey
Mountain States 2017 Employers Council (MSEC) Colorado Benchmark Compensation Survey
Mountain States 2017 Employers Council (MSEC) Information Technology Compensation Survey
National Compensation Association of State Government (NCASG) 2016 Survey
Willis Towers Watson 2016 Information Technology Survey
Willis Towers Watson 2016 Office and Business Support Survey
Willis Towers Watson 2016 Professional Administrative & Sales Survey
Willis Towers Watson 2016 Professional Technical Operations Survey
Willis Towers Watson 2016 Supervisory & Middle Management Survey
Willis Towers Watson 2016 Technical Support & Production Survey
Willis Towers Watson 2016 Healthcare Administration & Support Survey
Willis Towers Watson 2016 Healthcare Clinical & Professional Survey
Willis Towers Watson 2016 Healthcare Executive & Management Survey
Economic Research Institute (ERI)

Survey Data Collection & Job Matching

Survey data was collected using the following steps:

- Compare benchmark job summaries to comparable job matches from the surveys
- Review State job descriptions and other job documentation to ensure understanding of the duties and responsibilities of benchmark jobs, their level of job functioning, and the reporting relationships to make appropriate job matches from published survey sources

In accordance with standard compensation best practices as outlined by *WorldatWork*, only those jobs that match at least 80% of the duties, responsibilities, and functions as outlined in the benchmark job summary are utilized.

The Annual Compensation Study Performance Audit, May 2017 Report includes a recommendation to use three survey sources for each benchmark job. Gallagher follows Federal Trade Commission and U.S. Department of Labor guidelines which mandates that five matches should exist per job in order to draw reliable conclusions. Therefore, statistics (means, medians, etc.) are not calculated on jobs with fewer than five job matches. Only published surveys were used for this study. Using one survey, where necessary, is sufficient to draw reliable conclusions because published surveys do not report data without five job matches. For almost all job matches, more than one survey was utilized. Furthermore, credible survey organizations conduct a thorough review of all participant data to ensure accuracy. They complete an outlier analysis by reviewing survey participant data and removing anomalies that may have been a result of differing interpretations of jobs and application of job summaries to their organization structure and levels.

Often, job matches from published surveys are made up of hundreds to thousands of participating organizations. These organizations are a representative sample across labor markets and the public and private sectors. Participants of the surveys are known by name only. It is not known which organizations matched to each specific benchmark job. However, it is ensured the appropriate data-cut is used for each benchmark job:

- Local (e.g. Denver, Colorado Springs) data cuts for lower level jobs
- Local and public sector data cuts for mid-level jobs
- National and public sector data cuts for senior and management level jobs

Geographical Adjustments & Aging Factors

Because wage and income levels are different across the nation and even within local labor markets, differentials that factor in economic variations are calculated and applied to data collected from employers outside Colorado. Gallagher applied geographic differentials to ensure that data is reflective of the State's labor market and economic conditions. ERI is used to identify the appropriate geographic differences. All data is geographically adjusted to the State of Colorado's labor market.

Additionally, not all survey publications utilize the same effective date for their pay rates. In order for all survey data to have a common effective date, all market salary data was aged to a common effective date of July 1, 2018 using the *WorldatWork* prevailing market trend of 3% per year for actual salaries and 2% per year for salary ranges.

Weighting

As noted in the Annual Compensation Study Performance Audit, May 2017 Report, a defined weighting policy is integral to the total compensation study. In accordance with professional standards, Gallagher collected appropriate market data for job matches and data-cuts for each benchmark job. This approach allows the weighting to reflect the level, role, and labor market for each benchmark job, and is not solely focused on the survey used. The data was reviewed and adjusted to further mitigate the need for additional weighting:

- ERI was used to geographically adjust the market data to reflect the State's labor market
- Data reflects a common effective date of July 1, 2018
- Benchmark summary matches were reviewed and data was shared with the State to ensure the appropriate scope and level were represented

These adjustments are more statistically valid and defensible than weighting individual surveys.

Data Analysis & Acceptable Variance

For each benchmark comparison, the percentage difference is calculated between the State and the market in terms of actual salary:

- Positive (+) figure indicates that the State of Colorado pays above the market
- Negative (-) figure indicates that the State of Colorado pays below the market

In determining the competitive nature of the current pay structure and the base salaries of state employees, the following variance guidelines were used by Gallagher:

- +/-5% = Highly Competitive
- +/-10% = Competitive
- +/-10-15% = Possible misalignment with market
- >15% = Significant misalignment with market

This scale can be utilized for comparing individual benchmark jobs base salary, overall base salary, and salary structure.

Some of the benchmark jobs that have more than a 15% variance from the market are not necessarily

misaligned. Factors such as performance, turnover, and longevity will impact actual salaries and may explain some of the differences between the State and the market actual salaries for individual jobs. The above scale provides standard industry guidelines for determining competitiveness with the market. For the purposes of this study, jobs are reviewed in accordance with industry guidelines to determine competitiveness with the market. Organizational strategy and compensation philosophy may drive target thresholds for measuring competitiveness with the market. Currently, the State compensation philosophy targets a variance of +/-7.5% from the market to be competitive, which is in alignment with professional standards. Variances with the market greater than +/- 7.5% may require an internal and external review of the classification for potential misalignment.

Benefits Valuation Analysis

Gallagher administered an independent custom survey of the State's labor market. This survey was conducted to gather benefits information necessary to calculate the benefits value. The custom survey was sent to roughly 100 large public and private employers in Colorado and surrounding states. A total of 30 employers responded to the survey. Upon further analysis of the responses, it was determined that two respondents did not align with the intended employer characteristics, or had a benefit delivery mechanism that was not conducive to comparative analysis. In cases where respondents did not provide useable data for all benefit provisions, responses were used only for provisions that allow for meaningful comparison.

Government Sector Custom Survey Participants

Adams 12 Five Start School District	Denver Water
Colorado Higher Education Insurance Benefits Alliance	Jefferson County School District
City of Arvada	La Plata County
City of Boulder	Mesa County
City of Colorado Springs	State of Colorado
City of Lakewood	State of Kansas
City of Westminster	State of Utah
Colorado Springs Utilities	State of Wyoming
Colorado State University (CSU)	Summit County Government

Private Sector Custom Survey Participants

CGS Systems	MDC Holdings, Inc.
Coors Tek	Mercy Housing
DGP Midstream	TeleTech
IHS Markit	Tri-State
Kaiser Permanente Colorado	Vivage

In addition, the 2016 Gallagher Benefit Services Strategic and Benchmarking Survey was utilized to complement the customized survey findings. In order to arrive at prevailing life and disability costs, select leading insurers were canvassed, identifying average rates for their larger group book of business.

Retirement

For retirement benefits, Gallagher relied on the custom survey described above, along with the 2016 NCASG Survey. Additionally, some survey information was supplemented with publicly available information in cases where survey responses were not entirely clear. In cases where respondents did not provide useable data for all benefit provisions, their responses were used only for those provisions that allow for meaningful comparison. Please see page 7 of the Appendix for details on the methodology for determining retirement plan values.

Total Compensation Value

-5.5%
compared to
market median

Findings & Analysis

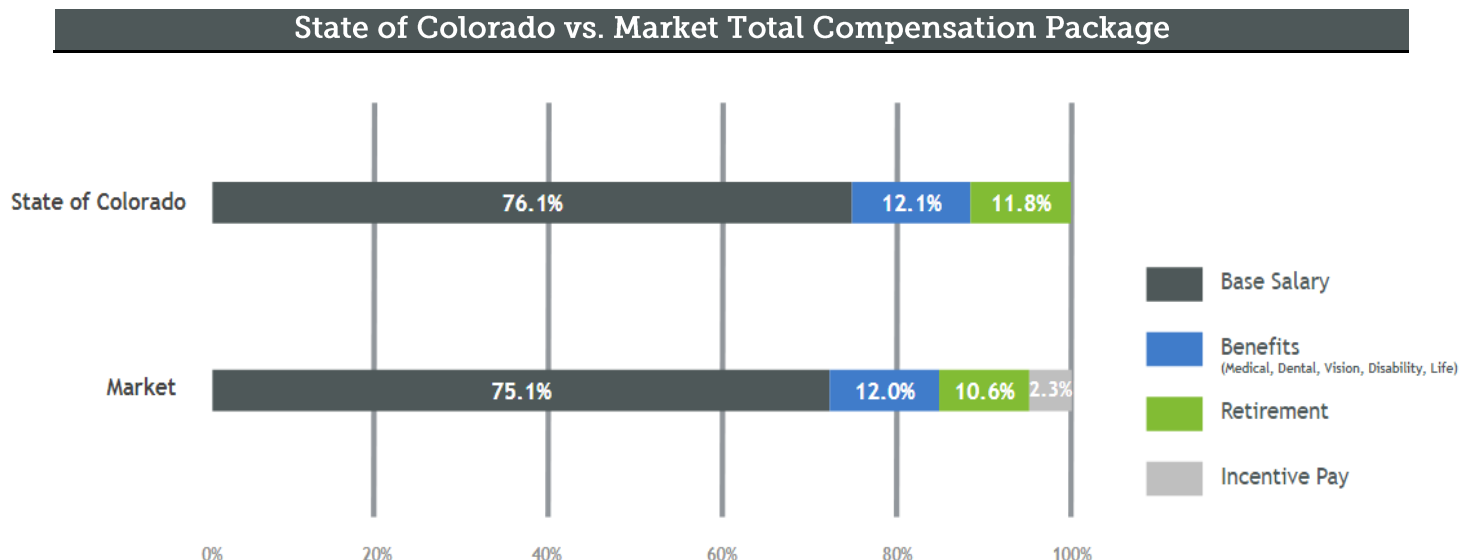
The total compensation package includes base salary, incentives, premium pay, benefits (medical, dental, disability, and life insurance) and retirement. These benefits have a cost to the State and provide value to State employees. The following chart outlines the total compensation amounts provided by the State and the market.

Component of Total Compensation	State of Colorado	Prevailing Market
Average Base Salary	\$62,956	\$65,720
Average Incentive Pay*	n/a	\$2,013
Medical	\$9,397 (14.9% of base pay)	\$9,725 (14.8% of base pay)
Dental	\$465 (0.7% of base pay)	\$459 (0.7% of base pay)
Vision	(Included in medical)	\$0 (0% of base pay)
Retirement	\$9,758 (15.5% of base pay)	\$9,305 (14.2% of base pay)
Long Term Disability**	\$0 (0% of base pay)	\$210 (0.3% of base pay)
Life and AD&D Insurance	\$108 (0.2% of base pay)	\$101 (0.2% of base pay)
Total	\$82,684	\$87,533

*State of Colorado has non-base incentive programs.

**Does not include disability provisions through PERA. Disability is 0% because the State pays for short-term disability with optional long-term disability. Typical practice in the market is to offer long-term disability with optional short-term disability.

The following chart provides a graphical representation of the base salary and benefit components that comprise the overall total compensation package for the State and the market.



- Base salary is 76.1% of total compensation for the State as compared to 75.1% for the prevailing market
- Benefits are 23.9% of total compensation for the State as compared to 22.6% for the prevailing market; specifically, medical, dental, long-term disability and life and accidental death and dismemberment insurance account for 12.1 % and retirement benefits account for 11.8% for the State
- Incentives are provided as non-base rewards by the State. Incentives are 2.3% of total compensation for the prevailing market

Total Compensation Value

The State is -5.5% compared to prevailing market levels for total compensation. According to standard compensation guidelines, the State is competitive with the market total compensation. It is recommended that the State maintain its current practices to remain in alignment with the prevailing market.

-6.3%

compared to
market median

Base Salary

Findings & Analysis

Utilizing published survey sources, Gallagher collected market data for 226 of 231 benchmark jobs. Approximately 30% of the collected market data is comprised of public sector data-cuts, including data-cuts from the NCASG survey, public administration data-cuts from Tower's Watson, and government data-cuts from ERI. The remaining 70% of the data is a mix of public and private sector data-cuts. CompData, Mercer, MSEC, and Tower's Watson surveys include both public and private sector participants, but due to the professional practice of maintaining participant confidentiality, it is not possible to verify the number of private and public sector participants for geographic data-cuts.

All salary data (base pay, total cash compensation) was compiled and adjusted for the State of Colorado labor market using the ERI Geographic Assessor. The following chart represents an aggregate comparison of all benchmark positions and is not a simple average of the benchmark comparisons.

	Market Base 25 th Percentile	Market Base 50 th Percentile	Market Base Average	Market Base 75 th Percentile
Overall Percentage Difference Between State Average Base Salary and Market Average Base Salary	4.7%	-6.3%	-8.7%	-17.3%

Overall, base salaries at the State, on average, are 6.3% below the 50th percentile or median of the market.

For each benchmark comparison, the percentage difference has been calculated between State average actual (base) salary and the market, excluding the State Trooper classifications. Of the 226 benchmarked classifications, approximately 67% (or 152) of the State's benchmark classifications are compensated within +/- 15% of the market median.

Occupational Group Comparison with Market Base Salary

The State's annual compensation study benchmarked 226 individual classification titles representing approximately 34% of the classified job classifications. These benchmark classifications are categorized into occupational groups defined by the State. The following table compares occupational groups to the market median for the benchmark classifications.

Variations for specific occupation groups are listed below. The chart represents aggregate comparisons of all benchmark positions within occupational groups and is not a simple average of the benchmark comparisons.

State Average Base Salary Comparison with Market Average Actual (Base) Salary			
Occupational Group		% Difference from Market Median	Comparison with Market
A	Enforcement and Protective Services	13.5%	potential misalignment
C	Healthcare Services	-7.1%	within competitive range
D	Labor, Trades and Crafts	-7.3%	within competitive range
G	Administrative Support and Related	-10.4%	potential misalignment

State Average Base Salary Comparison with Market Average Actual (Base) Salary			
Occupational Group		% Difference from Market Median	Comparison with Market
H	Professional Services	-7.1%	within competitive range
I	Physical Science and Engineering	-5.9%	within competitive range
T	Information Technology	-4.9%	within highly competitive range

Overall the Information Technology occupation group is highly competitive with the market median within +/- 5% variance from the market median. The occupational groups of Healthcare Services, Labor, Trades and Crafts, Professional Services, Physical Science and Engineering, and Administrative Support and Related are competitive with the market median (within +/- 10% range of the market). The occupational group of Enforcement and Protective Services is potentially misaligned with the market (within +/- 15% variance from the market).

Overall Base Salary Recommendations

Overall, the State is competitive with the market at 6.3% below the market median for classified jobs.

Gallagher recommends the State review individual benchmark classifications that are misaligned by +/- 15% to ensure appropriate recruitment and retention strategy.

To continue maintaining overall competitiveness with the market, the State should ensure base salary adjustments occur in accordance with the market trends identified on page 20.

Total Cash & Incentive Pay

Findings & Analysis

Gallagher calculated the overall average market incentive pay as a percent of market base salary for all benchmark jobs. The following chart illustrates the overall average market incentive pay (as a percent of market base) at the 25th percentile, 50th percentile, average, and 75th percentile.

	Market 25 th Percentile	Market 50 th Percentile	Market Average	Market 75 th Percentile
Overall Average Market Incentive	2.3%	2.5%	2.4%	3%

Incentive pay for benchmark jobs varies. Hence, the following chart illustrates the overall lowest and highest incentive pay (as a percentage of base salary) at Market 25th, 50th, average, and 75th.

Overall Average Market Incentive	Market 25 th Percentile		Market 50 th Percentile		Market Average		Market 75 th Percentile	
	Lowest Incentive (%)	Highest Incentive (%)	Lowest Incentive (%)	Highest Incentive (%)	Lowest Incentive (%)	Highest Incentive (%)	Lowest Incentive (%)	Highest Incentive (%)
	0.1%	18.6%	0.1%	19.8%	0.1%	20.7%	0.1%	18.3%

The overall market trend indicates that incentive pay is 2.3% of base salary in the market. Incentive pay as a percent of base salary for each occupational group was analyzed. The following chart illustrates the Market Average Incentive Pay percentage at the 50th percentile, and market average for each occupational group.

Occupational Group		Market 50 th Percentile	Market Average
A	Enforcement and Protective Services	2.9%	2.5%
C	Healthcare Services	1.5%	0.8%
D	Labor, Trades and Crafts	1.5%	0.9%
G	Administrative Support and Related	1.6%	2%
H	Professional Services	3.1%	3.3%
I	Physical Science and Engineering	3.4%	3.8%
T	Information Technology	3.4%	4%

Since the occupational groups contain classifications at different levels, and market pay sometimes varies by level, Gallagher identified the highest and the lowest incentive pay within each occupational group. The following chart illustrates the highest and lowest incentive pay percentage for each occupational group at the market 25th percentile and the market average.

Occupational Group		Market 50 th Percentile		Market Average	
		Lowest Incentive (%)	Highest Incentive (%)	Lowest Incentive (%)	Highest Incentive (%)
A	Enforcement and Protective Services	1.2%	4.6%	2.2%	2.7%
C	Healthcare Services	0.1%	10.7%	0.2%	3.6%
D	Labor, Trades and Crafts	0.3%	8.8%	0.1%	2.6%
G	Administrative Support and Related	0.6%	5.8%	0.4%	8.7%
H	Professional Services	0.1%	19.8%	0.1%	20.7%
I	Physical Science and Engineering	0.2%	15.8%	0.8%	13.3%
T	Information Technology	1.6%	6.5%	1.5%	7.3%

According to Gallagher, most public sector organizations do not provide short-term incentives or bonuses like the private sector does. However, to be competitive with the overall market, it is critical to review competitiveness with market total cash.

Currently, the State provides two types of incentive programs:

- **The State Employee Cost Savings Program** rewards innovative ideas that result in specific, identifiable cost savings to the State. Under the program, an employee may be eligible to receive 5% of the cost savings, up to \$5,000.
- **The Performance Incentive Program** rewards outstanding employee or team results. The earnings of rewards are measured by pre-defined performance measures or criteria, and are non-base building cash awards such as non-base building sales incentives or other components for certain classes. Most private sector organizations may calculate the performance incentive payout as a percentage of base salary.

Total Cash & Incentive Pay Recommendations

The State's current incentive pay practices are representative of best practices in public sector compensation, and there is a growing use of similar approaches.

Because the State does not have an incentive plan with fixed percentages, it is difficult, and potentially misleading, to compare a calculated Total Cash with the market Total Cash compensation. However, the State does need to recognize the 2.5% average market incentive present outside the public sector.

Gallagher recommends the State review the relationship between State Base Pay and market Total Cash in comparison with other total compensation vehicles such as benefits and retirement to ensure competitiveness with the overall market total compensation package.

Premium Pay

Findings & Analysis

According to a recent 2017 SHRM Employee Benefits Report¹ consisting of both public and private sector organizations, only 33% of organizations provide shift differentials. However based on NCASG's FY 2016-17² findings, most public sector state organizations provide shift differential premium pay for eligible classifications. More than 45% of the participant state organizations reported different shift differential rates for 2nd shift and 3rd shift. The shift differential rates ranged from 3% to 20% of base salary across organizations. Groups commonly eligible for shift differential pay include healthcare, public safety, and trades classifications.

The following charts detail shift differential rates provided by state organizations in the NCASG FY 2016-17 Pay Practices Survey. Due to the variances in how organizations report shift differentials, responses are broken into occupational group and provide the mode, range, and average values by percentage and dollar values for both 2nd and 3rd shift differentials.

Shift Differentials as a Portion of Base Salary for 2 nd Shift (NCASG 2016)						
Occupational Group*	Mode** (%)	Mode* *(\$)	Range*** (%)	Range*** (\$)	Average (%)	Average (\$)
Admin/Support	10%	n/a	10-15%	n/a	12.5%	n/a
All	5%	\$0.6	3.75-10%	\$0.3-\$0.9	6%	\$0.5
General Professional	10%	n/a	10-15%	\$0.46-\$1.8	8.8%	\$0.97
General Support	10%	\$0.6	10-15%	\$0.3-\$1.00	11.7%	\$0.6
Healthcare	10%	\$0.6, \$1.00	4.5%-15%	\$0.4-\$3.5	9.2%	\$0.5
Public Safety	0%, 10%	\$1.00	0%-60%	\$0.6-\$1.00	20.5%	\$0.8
Trades	10%, 50%	n/a	10%-50%	\$0.0-\$0.6	25.8%	\$0.4

Shift Differentials as a Portion of Base Salary for 3 rd Shift (NCASG 2016)						
Occupational Group*	Mode** (%)	Mode* *(\$)	Range*** (%)	Range*** (\$)	Average (%)	Average (\$)
Admin/Support	15%	n/a	0%-15%	n/a	15%	n/a
All	5%	\$0.5, \$0.6, \$0.3	5-12%	\$0.3-\$0.6	7.8%	\$0.5
General Professional	15%	n/a	0-15%	\$0.0-\$2.00	10%	\$0.8
General Support	15%	\$1.00	n/a	\$0.0-\$1.00	15%	\$0.6
Healthcare	15%	\$1.5, \$0.7, \$1.0, \$2.5	4.5%-20%	\$0.4-\$3.5	12.4%	\$1.4
Public Safety	15%	n/a	0%-60%	\$0.6-\$1.5	18.8%	\$1.0
Trades	15%, 50%	n/a	10%-50%	\$0.4- \$0.6	26.7%	\$0.5

* Occupational groups were created by GBS based on our knowledge and experience.

**The number that appeared most often in a set of numbers.

***Range of values from lowest to highest.

Call-back pay and on-call pay are other common supplemental pay categories. According to the NCSAG FY2016-17 survey, approximately 41% of state organizations reported that they provide call-back pay, while 79% of state organizations reported on-call pay for eligible classifications. The most common methods of providing on-call pay among NCASG participants are hourly and monthly rates. Four NCASG responses outlined monthly on-call

¹ Society for Human Resource Management (SHRM) 2017 EMPLOYEE BENEFITS

² National Compensation Association of State Governments Survey (NCASG) 2016 Pay Structures & Practices Survey

pay rates, which range from \$50 per month to \$100 per month. Six NCASG responses outlined hourly on-call pay rates. The following chart details the mode, range, and average as an hourly dollar value.

Hourly On-Call Pay Rates (NCASG 2016)		
Mode*	Range**	Average
\$2.00	\$1.00-\$2.25	\$1.85

*The number that appeared most often in a set of numbers.

**Range of values from lowest to highest.

Other forms of premium pay categories provided by state organizations include hazardous duty pay, holiday work premium, and uniform allowance. Based on 2017 SHRM research findings³, 57% of public and private sector organizations provide premiums for working on holidays when an organization is officially closed. Of these respondent organizations, 40% pay double-time, 21% pay one-and-a-half time, and 21% pay other types of premiums.

Premium Pay Recommendations

Overall, the State of Colorado is consistent with the market in providing shift differentials for 2nd and 3rd shifts for healthcare and non-healthcare groups, when compared to other state organizations. Additionally, the State is consistent with the market in providing on-call pay for eligible classifications. It is recommended the State conduct a custom survey of peer organizations to compare shift differential rates.

³ 2017 Holiday Schedules ©SHRM 2016 <https://www.shrm.org/hr-today/trends-and-forecasting/research-and-surveys/Documents/SHRM-Survey-Findings-2017-Holiday-Schedules.pdf>

Market Salary Increase Projections

3.1%

projected base salary increase

Findings & Analysis

Proposed Increases to Base Salaries

According to *WorldatWork* the base salary increase projection for the market in FY 2018 is 3% (median), while ERI estimates a projected an increase trend of 3.2%.

Overall, FY 2018-19 salary increase projections in the market are summarized below:

Survey Source	FY 2018-2019 Base Salary Projections
Economic Research Institute*	3.2% (did not specify mean or median)
WorldatWork Salary Budget Survey**	3% (median)
Custom Survey	Insufficient responses (Less than 5 participant organizations responded to pay increase projections for FY 2018-19)

*ERI Global Salary Increase Projections for 2018 <http://www.eri.com/infographic/globalsalaryincreaseprojectionsfor2018>

** WorldatWork Salary Budget Survey 2017-18 Top Level Results <https://www.worldatwork.org/adim/pub/2017-2018-top-level-results.pdf>

Proposed Increases to Salary Structure

According to *WorldatWork*, the projected salary structure increase is 2% in 2017-18. Gallagher's custom survey findings indicate the average salary structure adjustment in 2017 is 1.1% among participant organizations.

It is recommended the State consider two separate adjustments, including both a salary base increase and salary structure increase. The salary structure percentage ensures the structure is moving in alignment with the market.

Best Practice Methods of Delivering Pay to Employees

Similar to prior years, the practice of delivering performance based pay continues to be the prevailing practice for providing base salary increases in the market.

Primary Type of Pay Increase	Market Practice*
Merit increase based on individual performance	48%
Step Progression based on length of service	16%
Across the board General Increase (not cost of living)	26%

*Percentages do not add up to 100% since many organizations use more than one practice on pay increase.

This method of pay increase meets the Director's goal of rewarding state employees who are meeting or exceeding performance expectations. Market data collected by the custom survey indicates that the primary method of delivering pay increases used in the public sector are based on individual performance (merit increases).

The Colorado Constitution established performance based pay for the State Personnel System based on merit and fitness (C.O. Const. art. XII, §13). Pursuant to C.R.S. 24-50-104(1)(c), the Director established a merit pay system for employees in the State Personnel System for the purpose of providing salary increases based on individual employee performance. Awards of merit pay increases are based upon priority groups and are defined in a matrix.

The priority groups are determined by an employee's location within the pay range and performance based on the following three performance levels: Exceptional (level 3), Successful (level 2) and Below Expectations (level 1).

Base Salary Recommendations

Provide merit, COLA, or other salary adjustments of 2% to 3% in accordance with compensation philosophy and strategy.

According to *WorldatWork* Salary Budget Survey FY 2017-18 the projected merit increase percentage for FY 2018-19 is 3%, while Cost of Living (COLA) increase is projected at 2%. This does not indicate that the market trend is to provide 5% increases to base salary. This is in addition to separately increasing salary structure by the projected market trend factor provided by *WorldatWork*.

Market Salary Structure Comparison

+1.1%
compared to
market
range midpoint

Findings & Analysis

Gallagher compared the State's overall classified salary structure for the benchmark jobs with the overall market pay grade average at range minimum, midpoint, and maximum. The State is highly competitive with the market average range minimum, midpoint, and maximum.

	Market Average Range Minimum	Market Average Range Midpoint	Market Average Range Maximum
Overall Percentage Difference from Market Average Salary Structure	5%	1.1%	-1.6%

Next, Gallagher compared the overall pay range spread of the State's salary structure with the average market range spread for all benchmark classifications. The average market range spread is wider than the average State range spread. Such variation can be attributed to different organizational compensation philosophies that determine the width of the ranges.

	State Range Spread	Market Range Spread
Average Range Spread	48%	59%

It is recommended that the State review benchmark jobs where necessary to assess internal alignment in regards to comparable level of decision making, complexity, and supervisory responsibilities.

Given that some of the State's classifications are broadly defined in terms of functional duties and job level, it is also recommend the State validate market job matches.

Occupational Group Comparison with Market Salary Structure

The following table compares salary structures of the State's occupational groups to the market ranges for benchmark jobs. Variations for the specific occupation groups are listed below.

Salary Structure Market Comparison					
Occupational Group		% Difference from Market Average Range Midpoint	Current Occupational Group Range Spread	Market Range Spread	Comparison with Market
A	Enforcement and Protective Services	14.7%	53%	80%	potential misalignment
C	Healthcare Services	-1.7%	47%	60%	within highly competitive range

Salary Structure Market Comparison					
Occupational Group		% Difference from Market Average Range Midpoint	Current Occupational Group Range Spread	Market Range Spread	Comparison with Market
D	Labor, Trades and Crafts	-1.4%	42%	54%	within highly competitive range
G	Administrative Support and Related	-6.8%	42%	50%	within competitive range
H	Professional Services	-1.1%	48%	65%	within highly competitive range
I	Physical Science and Engineering	7.8%	49%	66%	within competitive range
T	Information Technology	3.8%	74%	62%	within highly competitive range

Salary Structure Recommendations

The State is currently highly competitive with the market salary structure at 1.1% above the market. It is recommended the State consider the following practices to remain competitive:

- Adjust the Salary Structure for FY 2018-19 by utilizing the projected *WorldatWork* market trend factor of 2% to ensure the structure continues to remain highly competitive. The salary structure percentage adjustment is separate from the salary budget increases.
- Review individual job classifications where there is significant misalignment with the market in terms of the range minimum, midpoint, maximum, and range spreads for both appropriate internal alignment and validation of the market matches utilized.
- Ensure employees move through the ranges to reduce potential salary compression issues.
- Review pay grades within the occupational groups to resolve issues of overlapping pay grade ranges and ensure appropriate midpoint differentials.
- Review the turnover rate for highly tenured employees. The turnover rate may be impacted by the State range maximum being 1.6% lower than the market maximum. Retaining highly tenured employees should also be reviewed in relationship with the retirement benefits. This will help ensure the State is competitive with the market and is effectively able to attract and retain employees.

State Patrol Trooper

-6.6%
compared to
market median

Methodology

The methodology used to determine and maintain prevailing compensation for the law enforcement officers employed by Colorado State Patrol is provided by C.R.S. 24-50-104. The statute requires the Division to use methodologies consistent with the other classes to determine and maintain prevailing compensation with one exception. Statutorily, the labor market to be used for adjustments to actual salaries is uniquely defined as the top three law enforcement agencies within Colorado having more than 100 commissioned officers and the highest actual average salary.

The agencies that meet these criteria may change from one year to the next. For the State Trooper classes, individual salary data in the market was summarized by calculating the weighted average of actual salaries (by class size) reported, as required by statute.

Data Sources

In compliance with statute, Gallagher reviewed the classification's job duties and identified comparable matches in the market utilizing published survey sources provided by the State. Market data was collected for the State Trooper Classes by utilizing the FY 2017-18 Public Employers Compensation Survey published by MSEC. Gallagher identified the top law enforcement jurisdictions by individual classification in compliance with the statute methodology.

Utilizing the MSEC Survey, all the participant organizations within the identified job matches by highest annual actual average salary were ranked. Next, the top three law enforcement jurisdictions within Colorado with the highest paid actual average salary having more than 100 commissioned officers were identified.

Data Adjustments

All data was aged to a common effective date of July 1, 2018 using the *WorldatWork* prevailing market trend 3% for salary budget increase. Market data was not adjusted geographically due to the statutorily defined market being within Colorado.

Findings & Analysis

Overall comparison shows the State is -6.6% below the weighted market average (weighted by class size) for the top three law enforcement jurisdictions within the State of Colorado. Using standard compensation guidelines, the State Trooper Classification Series is overall competitive (+/- 10% variance with the market) with the market.

The comparison chart on the following page provides the individual State Trooper classification comparison with the market. The State Patrol Supervisor classification is highly competitive with the market (+/- 5% variance from market), while the State Patrol Trooper, State Patrol Admin I, State Patrol Admin II are competitive with the market (+/- 10% variance from the market). No market data was available for State Patrol Cadet, and State Patrol Trooper III positions.

State vs. Market Top 3 Law Enforcement Agencies												
State FY 2017-18							Market FY 2018-19				FY 2017-18	
Class	Class Title	OCC	Grade	# of EEs	Current Average Salary	Current Average Monthly	Projected Weighted Mkt Avg	Projected Weighted Mkt Avg@ 99%	% Diff State From Weighted Mkt Avg	Growth/ Decrease to Reach Mkt Weighted Avg @ 99%	Growth/ Decrease to Reach Mkt Weighted Avg @ 99%	
A4A3	STATE PATROL TROOPER	S	S02	370	\$76,996	\$6,416	\$6,930	\$6,861	-6.48%	6.93%	13.69%	
A4A5	STATE PATROL SUPERVISOR	S	S04	101	\$102,975	\$8,581	\$8,953	\$8,863	-3.18%	3.28%	6.71%	
A4A6	STATE PATROL ADMIN I	S	S05	31	\$116,491	\$9,708	\$10,748	\$10,641	-8.77%	9.62%	8.38%	
A4A7	STATE PATROL ADMIN II	S	S06	7	\$134,487	\$11,207	\$12,207	\$12,085	-7.26%	7.83%	9.70%	
A4A1	STATE PATROL CADET	S	S01	42	\$63,912	\$5,326	No Market Data				No Market Data	
A4A4	STATE PATROL TROOPER III	S	S03	216	\$89,112	\$7,426	No Market Data				No Market Data	
		Sum of EEs		767								
Overall Difference from the Market-Weighted Average @ 99%										-6.6%		

-3%

compared to
market median

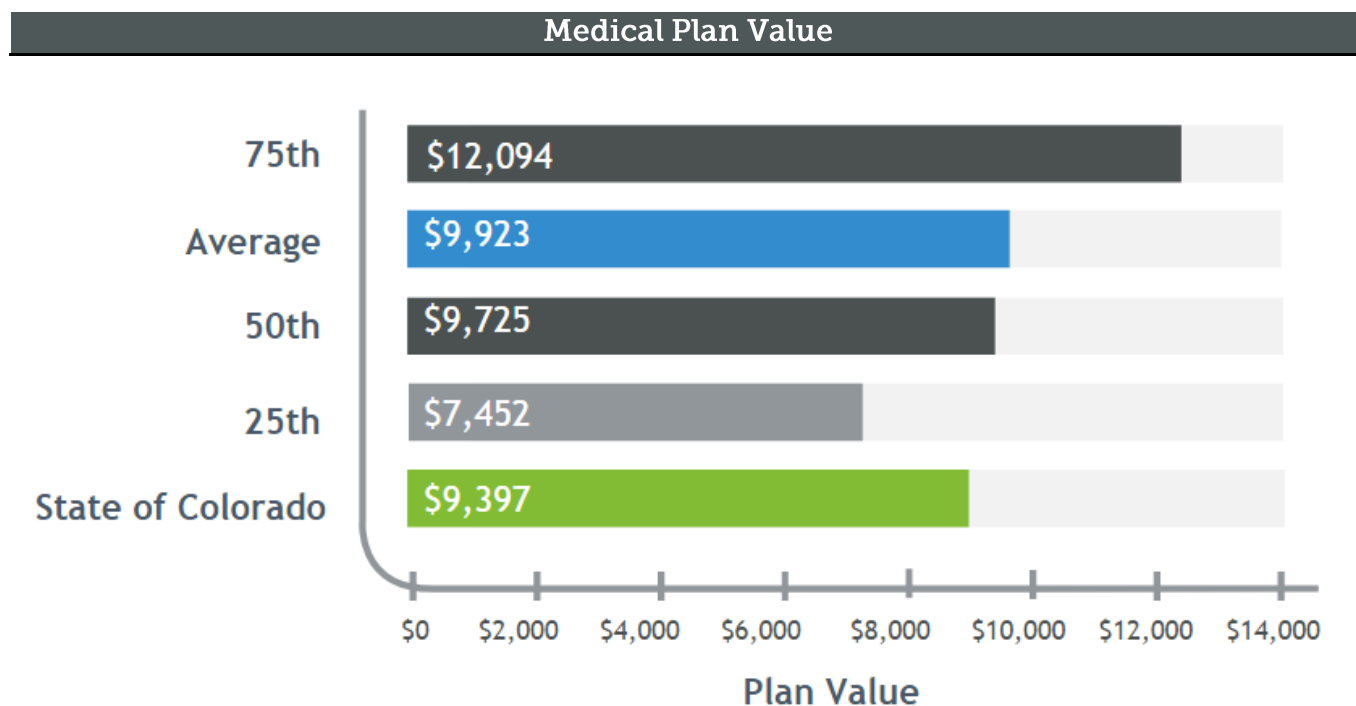
Medical Benefits

The State of Colorado Group Employee Medical Plan offers two plan designs: co-pay and qualified high deductible health plans (HDHPs). Both are offered through Kaiser Permanente and United Healthcare.

Among larger employers, it is common to offer multiple medical plan options. Among survey participants, 93% offered more than one plan, with an average of three plans being observed. Employer strategies and resulting contributions vary. Therefore, it is important to view the overall value of benefits, beyond the most prevalent plan selected by employee.

In order to provide a holistic assessment of the value provided by employers participating in the survey, Gallagher collected enrollment and employer contribution data for all medical plans. They multiplied actual enrollment in each plan and tier (i.e., employee only, family, etc.) by the employer monthly contribution to determine the total employer contribution, divided this amount by the total number of enrolled employees, and then multiplied this monthly amount by 12 to arrive at a per employee, per year employer contribution.

Gallagher then calculated the relative value of each of the medical plan options offered by employers, using the Centers for Medicare & Medicaid Services (CMS) Minimum Value Calculator, which provides an actuarial value for each of the respective plans. The actuarial value is the best indicator of plan cost, as it represents a normative plan cost (after employee cost share) for every dollar of healthcare. These factors were multiplied by the enrollment in each plan, and then divided by the total enrollment, arriving at a weighted average value of all plans combined. The relative value of each participant relative to the State was then used to adjust the employer contributions to arrive at an adjusted employer contribution, depicting an overall effective employer contribution.



The value of the combined medical offerings by the State was determined to be \$9,397. This figure was 3% below the median value of all survey respondents, or \$9,725.

Medical Plans Offered by the State of Colorado		
Medical Plans Offered	State of Colorado	Prevailing Market
PPO	Yes	19 organizations
HMO	Yes	11 organizations
POS	No	4 organizations
Indemnity	No	0 organizations
High Deductible with HSA	Yes	19 organizations
High Deductible without HSA	No	0 organizations
Other	No	2 organizations
HSA Contribution	Yes	16 organizations contribute to an HSA account
Amount Employer is Contributing to the HSA	\$720	Average: \$617 Median: \$550

Medical Plan Average Costs			
Medical	State of Colorado Average	Prevailing Market Average	Prevailing Market Median
EE Only	Employer Cost: \$486.21	Employer Cost: \$509.98	Employer Cost: \$499.42
	Employee Cost: \$70.89	Employee Cost: \$86.93	Employee Cost: \$66.60
EE + 1, Spouse or Child	Employer Cost: \$910.25	Employer Cost: \$922.38	Employer Cost: \$906.00
	Employee Cost: \$243.96	Employee Cost: \$281.72	Employee Cost: 243.05
EE + Child(ren)	Employer Cost: \$903.88	Employer Cost: \$855.55	Employer Cost: \$822.76
	Employee Cost: \$143.59	Employee Cost: \$259.63	Employee Cost: \$194.77
EE + Family, EE + 2 or More	Employer Cost: \$1,282.60	Employer Cost: \$1,252.24	Employer Cost: \$1,262.14
	Employee Cost: \$361.56	Employee Cost: \$417.35	Employee Cost: \$348.33

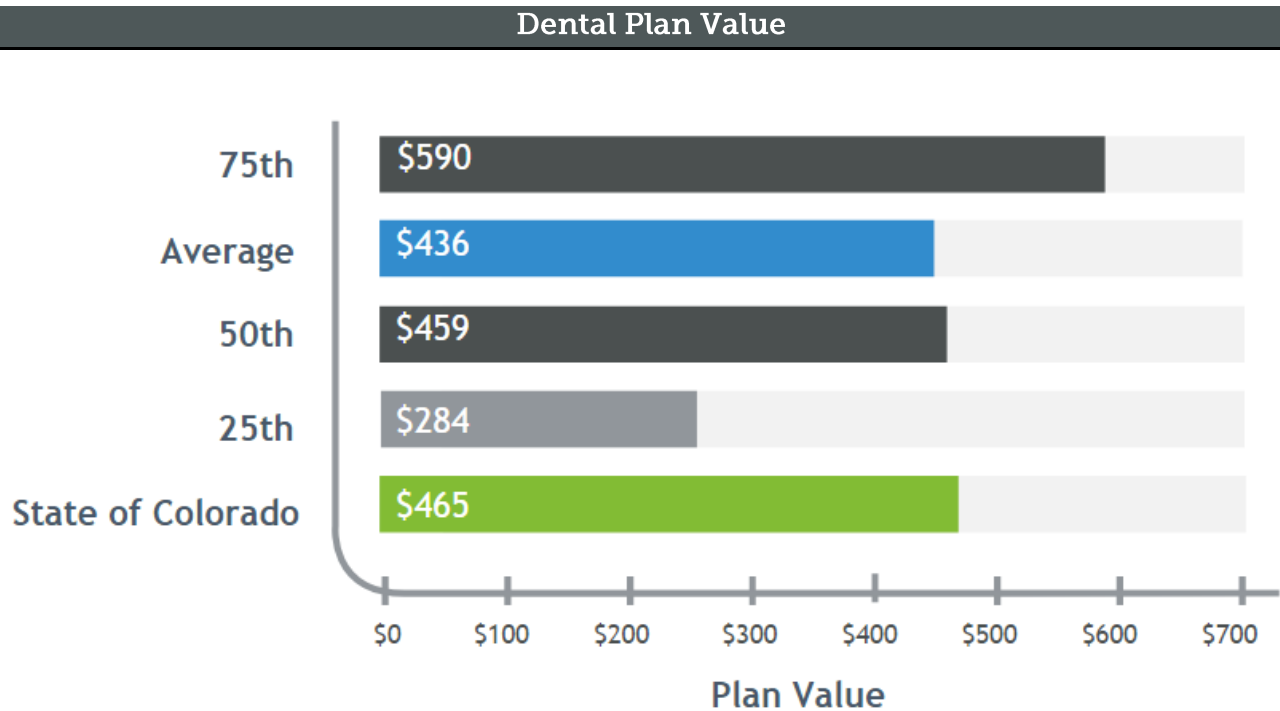
Medical Plan Specific Averages			
Medical	State of Colorado Average	Prevailing Market Average	Prevailing Market Median
Individual deductible	\$1,313	\$1,268	\$1,000
Family deductible	\$2,625	\$2,642	\$2,500
Coinsurance	18%	16%	20%
Individual Out-of-Pocket Maximum	\$3,250	\$3,510	\$3,000
Family Out-of-Pocket Maximum	\$6,500	\$7,260	\$7,000
Office Copay (PCP)	\$30 (KP deductible HMO plan + 10%)	\$23	\$25
Office Coinsurance (PCP)	20% (KP deductible HMO plan + 10%)	16%	20%
Office Copay (Specialty)	\$50 (KP deductible HMO plan + 10%)	\$37	\$40
Office Coinsurance (Specialty)	20%	16%	20%
ER Copay	\$500	\$165	\$125

Medical Plan Specific Averages			
Medical	State of Colorado Average	Prevailing Market Average	Prevailing Market Median
ER Coinsurance	20%	16%	20%
Rx Generic Copay	\$10	\$11	\$10
Rx Generic Coinsurance	--	16%	20%
Rx Preferred Copay	\$30	\$33	\$33
Rx Preferred Coinsurance	--	21%	20%
Rx Non-preferred Copay	\$50 (only includes UHC HDHP & Choice Plus Plan)	\$55	\$50
Rx Non-preferred Coinsurance	--	31%	30%

Dental Benefits

+1%
compared to
market median

For purposes of evaluating dental benefits, if an employer offers more than one dental plan, the plan with the highest enrollment is valued. The chart below indicates the employer contribution for the most prevalent dental plan. The State's contribution for dental in the most prevalent plan was valued at approximately the median contribution for survey respondents. The State's contribution to dental is 1% higher than the median of all survey respondents.



Dental coverage was offered by all survey respondents, with a dental PPO plan design being the most prevalent among all survey respondents.

Dental Plans Offered by the State of Colorado		
Dental Plans	State of Colorado	Prevailing Market
Dental Coverage Offered	Yes	28 out of 28 organizations
Dental Plans Offered	State of Colorado	Market Prevalence
Schedule of benefits	No	0 organizations
Comprehensive/Indemnity	No	1 organization
Dental PPO	Yes	27 organizations
DMO	No	0 organizations
Orthodontic benefits offered	Yes	23 out of 28 organizations
Lifetime maximum per person for Ortho	50% coverage (\$3,000 lifetime maximum per person)	Average: \$1,393 Median: \$1,500

Dental Plan Costs			
Dental	State of Colorado Plus Plan	Prevailing Market Average	Prevailing Market Median
EE Only	Employer Cost: \$25.92	Employer Cost: \$24.15	Employer Cost: \$25.92
	Employee Cost: \$18.38	Employee Cost: \$13.41	Employee Cost: \$10.00
EE + Family, EE + 2 or More	Employer Cost: \$62.22	Employer Cost: \$53.15	Employer Cost: \$56.00
	Employee Cost: \$70.80	Employee Cost: \$57.20	Employee Cost: \$50.86

Dental Plans			
Dental	State of Colorado Plus Plan	Prevailing Market Average Individual	Prevailing Market Average Family
Annual deductible	Average Individual: \$50 Average Family: \$150	Average: \$42	Average: \$115
	Median Individual: \$50 Median Family: \$150	Median: \$50	Median: \$150
Annual Maximum	Average: \$3,000	Average: \$1,596	
	Median: \$3,000	Median: \$1,500	
Preventative Services Coinsurance	Average: 80%	Average: 97%	Average: 97%
	Median: 80%	Median: 100%	Median: 100%
Basic Services Coinsurance	Average: 80%	Average: 78%	Average: 78%
	Median: 80%	Median: 80%	Median: 80%
Major Services Coinsurance	Average: 50%	Average: 57%	Average: 57%
	Median: 50%	Median: 50%	Median: 50%

Additional Benefits

Vision Benefits

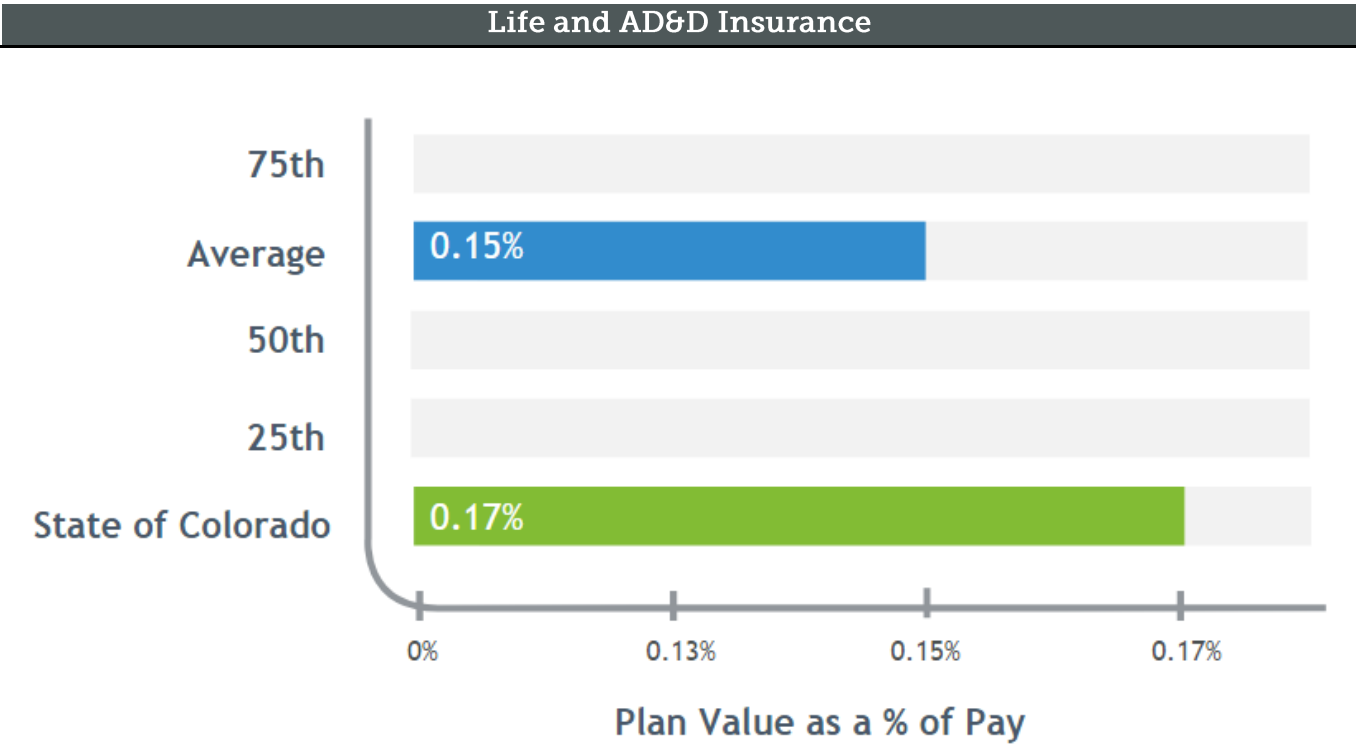
Vision coverage was offered by 93% of all survey respondents. The State and one other organization offer vision as part of medical enrollment. For employers offering vision coverage as a stand-alone benefit, the average employer cost was \$11.03 per month. Twenty of the responding organizations offer vision coverage on a voluntary (fully employee paid) basis.

Vision Plans			
Vision	State of Colorado	Prevailing Market	
Vision coverage offered	Yes	26 out of 28 organizations provide vision coverage Vision is bundled with medical plan in 2 organizations	
Vision	State of Colorado	Prevailing Market Average	Prevailing Market Median
Monthly Premium EE Only	Vision bundled with medical plan	Employer Cost: \$0.47	Employer Cost: \$0.00
		Employee Cost: \$7.19	Employee Cost: \$7.52
Monthly Premium EE + Family, EE + 2 or More	Vision bundled with medical plan	Employer Cost: \$1.65	Employer Cost: \$0.00
		Employee Cost: \$21.20	Employee Cost: \$21.49

Life and Accidental Death and Dismemberment (AD&D) Insurance

The cost for the State’s life insurance was above the estimated average cost of the market by approximately 10%. Note that life insurance rates are in fair part related to the demographics of the covered employee population. So, in general an employee group that is older would be expected to have a higher life insurance cost.

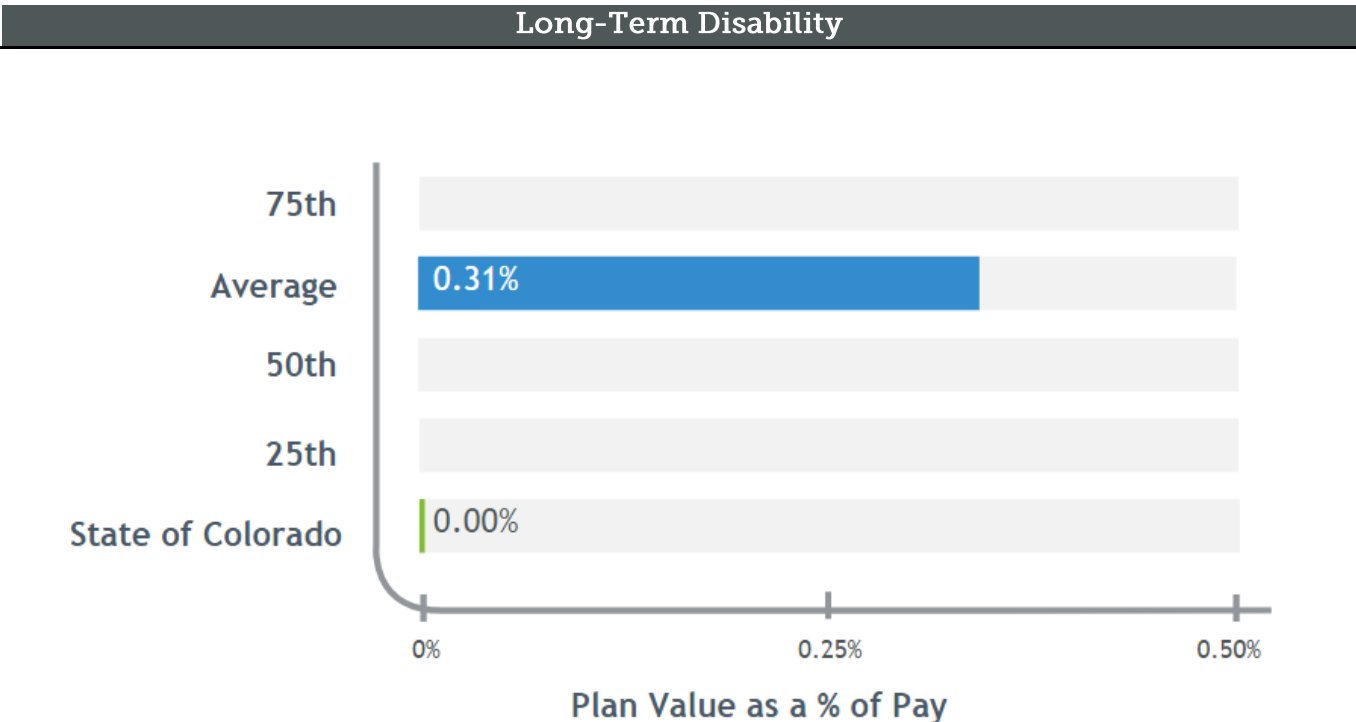
Similar to the State’s life insurance plan, nearly two-thirds of the prevailing market offer life insurance as a multiple of salary. The remaining participants provide life insurance on a flat dollar amount of coverage. Some survey respondents offer both types of plan design (multiple of salary and flat dollar amount), depending upon an employee’s classification within the organization.



Life and Accidental Death and Dismemberment Insurance		
Life Insurance	State of Colorado	Prevailing Market
Basic group term life insurance offered	Yes	27 out of 28 organizations offer life insurance
Benefit Amount--Flat Dollar Amount	No	Of those that offer Life insurance, 12 organizations offer a flat dollar amount
Benefit Amount--Multiple of Salary	Yes--1 x salary \$50,000 up to \$250,000	Of those that offer Life insurance, 20 organizations offer a multiple of salary
AD&D Insurance offered	Yes	26 out of 28 organizations offer AD&D insurance
Voluntary supplemental group term life insurance offered	Yes	24 out of 28 organizations offer supplemental life insurance
Benefit Amount--Flat Dollar Amount	Yes--\$10,000-\$500,000	Of those that offer Vol. Life and AD&D insurance, 11 organizations offer a flat dollar amount ranging from \$10,000 up to \$500,000
Benefit Amount--Multiple of Salary	N/A	Of those that offer voluntary Life and AD&D insurance, 18 organizations offer a multiple of salary ranging from 1-5X annual salary

Disability Benefits

Through the Colorado Public Employees Retirement Association (PERA), the State provides a form of disability benefit as part of the overall retirement benefit. In addition, the State offers a voluntary (fully employee paid) long-term disability (LTD) plan to supplement the disability benefit offered through PERA. Therefore, the State’s cost for a stand-alone LTD benefit is \$0. Among survey respondents, the vast majority offer employer-paid long-term disability coverage. The State offers employer paid short-term disability coverage, which is on par with most of the prevailing market.



Disability		
Long Term Disability	State of Colorado	Prevailing Market
Long Term Disability Offered	Yes	26 organizations responded "yes" for offering LTD plan. 2 organizations did not respond at all.
Employer Paid Benefit (beyond PERA disability benefit)	No	Of the 26 organizations that responded, 20 organizations said this was an employer paid benefit, and 5 said it was not an employer paid benefit.
Elimination Period	180 days	Average: 136.2 days Median: 150 days
Income Replacement Percentage	60%	Average: 60% Median: 60%
Monthly Maximum Benefit	\$10,000	2 responded less than/equal to \$5,000 8 responded between \$5,001 and \$7,500 7 responded between \$7,501 and \$10,000 1 responded between \$10,001 and \$12,500 4 responded between \$12,501 and \$15,000 3 responded greater than \$15,000 3 did not respond

Disability		
Short Term Disability	State of Colorado	Prevailing Market
Short Term Disability Offered	Yes	21 out of 25 organizations offer a STD benefit (2 did not respond)
Employer Paid	Yes	17 out of 20 organizations that provide STD benefits are employer paid (8 did not respond)
If Employee paid, is the benefit post or pre tax	N/A	Of the 3 organizations that do not supply employer paid benefits: 2 Post tax 1 Pre tax
Elimination period	30 days (or until sick leave is exhausted)	11 organizations offer 7 days sick/7 days accident 3 organizations offer 14 days sick/14 days accident elimination period 5 organizations said other 2 organizations said none 7 organizations did not respond
Benefit %	60%	Average: 57% Median: 60%

Sick Leave, Vacation Leave, and Miscellaneous Benefits

Sick Leave			
Sick Leave (By Days)	State of Colorado	Prevailing Market Average	Prevailing Market Median
1 year of service	10 days	9.4 days	12 days
5 years of service	10 days	9.4 days	12 days
7 years of service	10 days	9.4 days	12 days
10 years of service	10 days	9.4 days	12 days
15 years of service	10 days	9.4 days	12 days
20 years of service	10 days	9.4 days	12 days
25 years of service	10 days	9.4 days	12 days

Vacation Leave			
Vacation Leave (By Days)	State of Colorado	Prevailing Market Average	Prevailing Market Median
1 year of service	12 days	13.7 days	12 days
5 years of service	12 days	17.7 days	15.5 days
7 years of service	15 days	18.4 days	16 days
10 years of service	15 days	21.1 days	20 days
15 years of service	18 days	22.5 days	21 days
20 years of service	21 days	23.7 days	24 days
25 years of service	21 days	24.0 days	24 days

Miscellaneous Benefits		
Wellness Benefits/Incentive	State of Colorado	Prevailing Market
Wellness Program offered	Yes	21 out of 28 organizations offer a wellness program
Incentives for participating in the wellness program	Yes	Of those that offer a wellness program, 20 organizations offer some sort of incentive
Cash compensation EE	No	6 organizations
Cash Compensation SP	No	2 organizations
Premium differential EE	\$20	9 organizations
Premium differential SP	No	2 organizations
HRA/HSA Contributions EE	No	5 organizations
HRA/HSA Contributions SP	No	5 organizations
Time off EE	No	2 organizations
Time off Spouse	No	-
Other EE	-	1 organization offers gift card 1 organization offers participation prizes 1 organization offers free recreation pass

Miscellaneous Benefits		
Benefits for Part-Time Employees	State of Colorado	Prevailing Market
20 hours or more	Yes	20 out of 28 organizations offer benefits to part-time employees working 20 hours or more
30 hours or more	Yes	26 out of 28 organizations offer benefits to part-time employees working 30 hours or more

State Benefit Findings

The State's benefits are generally in line with prevailing provisions and contributions. Benefit design and choices offered by the State are in line with market for both medical and dental. No specific changes are suggested. As to employer contributions, it is recommended to maintain the same general employer contribution percentages for both medical and dental. The extent of leave (both sick and vacation) are generally in line with the market. The State may wish to explore the value and feasibility of a consolidated paid time off approach. Consideration should also be given to introducing an employer paid long term disability program that supplements the disability benefits provided through PERA.

Retirement

+9.9%
compared to
market median

Valuation of Retirement Benefits

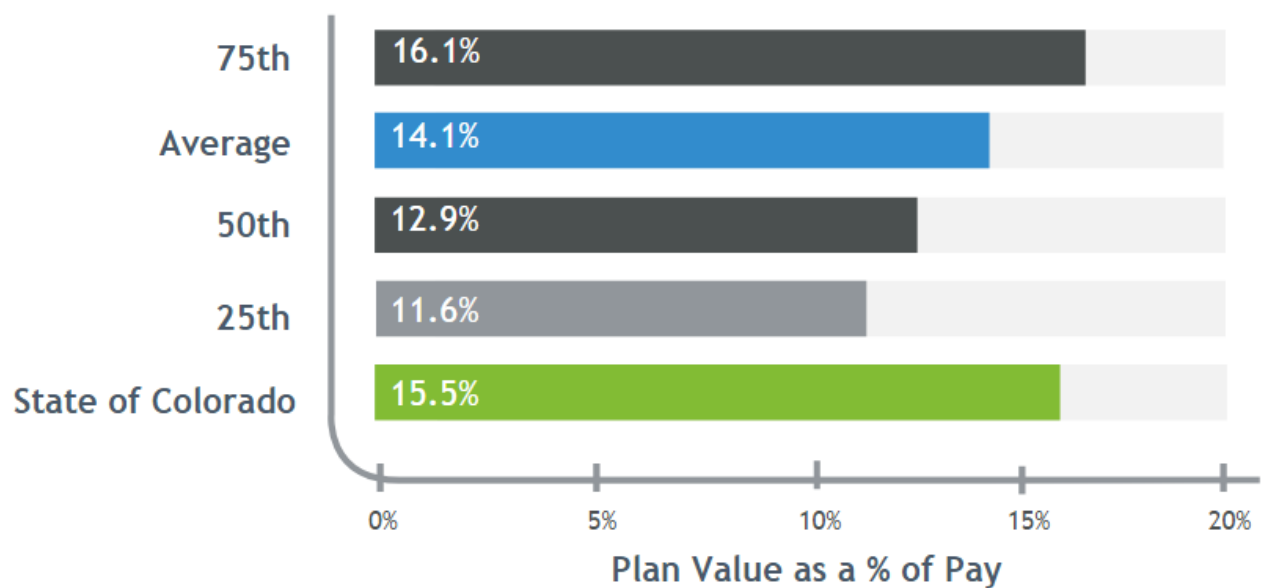
The State of Colorado provides retirement benefits for employees through the Colorado Public Employees Retirement Association (PERA). Neither the State nor employees contribute to Social Security. Newly hired State employees have the choice between two basic retirement plans: The Colorado PERA Defined Benefit Plan or the Colorado PERA Defined Contribution Plan.

The State currently contributes 10.15% of each employee's salary toward the PERA retirement benefit structure. Employees currently contribute 8% (State Troopers and CBI Agents contribute 10%). In addition, statute requires the State, as a PERA employer, to contribute an incremental percentage increase each year toward the Amortization Equalization Disbursement (AED) and the Supplemental Amortization Equalization Disbursement (SAED). C.R.S. 24-51-411, §3.5, §6.5 state that AED and SAED do not increase beyond calendar year 2018. Both have reached the maximum of 5% for FY 2018-19.

A portion of the State contribution to PERA goes to the Health Care Trust Fund to pay healthcare premium subsidies to benefit recipients who participate in the PERACare Health Benefits Program. While this is ultimately of value, it is not taken in to consideration for the purposes of this study. Also covered by a portion of the contributions to PERA is a form of disability benefit. As with the retiree healthcare subsidy, there is an embedded value to this benefit, but is not considered as a separate benefit (or cost) for purposes of this study.

Social Security is being fully considered for purposes of this study. This means when comparing the State to market organizations, both the benefits and cost of Social Security are being valued when applicable for respective organizations. Please see the page 7 of the Appendix for further detail on the methodology for determining retirement plan values.

Total Retirement Value Comparison



FY 2018-19 Cost Projections

The Department used the July 2017 salaries for all classified staff to develop the figures presented in the text and charts below. Analysis was completed for the remaining benefit components (leave, retirement, and short term disability). No cost adjustments are presented, as the value of these benefits did not vary from prevailing market. The Department will work with the Office of State Planning & Budgeting to develop the final merit matrix for consideration in the Governor's November 1 Budget Request for FY 2018-19.

Salary Structure Adjustments

To continue to accurately align itself with the market, the Department recommends that individual pay ranges be adjusted. To the extent that an individual's salary falls below the range minimum as a result of these adjustments, the State is statutorily required to make up the difference.

For FY 2018-19, the Department estimates that the upward movement of range minimums will cost the State \$62,625,388, which includes all salary related costs. This includes an overall structure adjustment of 2%.

Merit Matrix Adjustments to Base Pay

Historically, the State utilized a combination of merit and across-the-board pay practices. To that end, the Department requests the merit matrix percent adjustments reflect the entirety of the market salary adjustment of 3%. The following merit matrix reflects this request.

Recommended Merit Matrix for FY 2018-19

Performance Rating	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Above Quartile 4
Exceptional (level 3)	3.96%	3.76%	3.56%	3.36%	3.16%
Successful (level 2)	2.96%	2.76%	2.56%	2.36%	2.16%
Below Expectations (level 1)	0%	0%	0%	0%	0%

If the State were to pursue salary increases through merit, the salary adjustments for the merit awards would be base-building for quartiles one through three, with non-base-building awards granted for the fourth quartile and above. For FY 2018-19, the Department estimates that the base-building impact of the requested policy is \$59,978,150 in total funds, while the non-base-building impact is to be \$2,597,411. The total cost being \$62,625,388, including all salary related costs (movement to minimum and an overall structure adjustment of 2%).

Healthcare Cost Adjustments

The Department will finalize the cost of increases to healthcare, dental and life following the finalization of cost projections in the market. This will be completed in October 2017 in preparation for the Governor's November 1 Budget Request for FY 2018-19.

Appendix

Benchmark Class Titles

Individual Benchmark Class Titles	
ACCOUNTANT I	CHAPLAIN I
ACCOUNTANT II	CHAPLAIN II
ACCOUNTANT IV	CHILD CARE AIDE
ACCOUNTING TECHNICIAN I	CIVIL ENG PROJ MANAGER I
ACCOUNTING TECHNICIAN III	CLIENT CARE AIDE II
ACTUARY I	CLIN BEHAV SPEC II
ACTUARY II	CLINICAL THERAPIST I
ADMIN ASSISTANT I	COLLECTIONS REP II
ADMIN ASSISTANT II	COMM PAROLE SUPV
ADMIN ASSISTANT III	COMMUNITY PAROLE OFF
AIRCRAFT PILOT	COMMUNITY WORKER II
ANALYST II	COMP INSURANCE SPEC II
ANALYST III	COMP INSURANCE SPEC III
ANALYST IV	COMPL INVESTIGATOR II
ANIMAL CARE I	COMPLIANCE SPECIALIST II
APPRAISER I	COMPLIANCE SPECIALIST III
ARCHITECT I	COMPLIANCE SPECIALIST V
ARCHIVIST I	COMPUTER OPER SUPV I
ARTS PROFESSIONAL I	COMPUTER OPERATOR II
ARTS PROFESSIONAL II	CONTRACT ADMINISTRATOR II
ARTS TECHNICIAN I	CONTRACT ADMINISTRATOR IV
AUDITOR I	CONTRACT ADMINISTRATOR VI

Individual Benchmark Class Titles	
AUDITOR II	CONTROLLER III
AUDITOR V	CORR SUPP TRADES SUPV I
BARBER/COSMETOLOGIST	CORR/YTH/CLIN SEC OFF II
BUDGET & POLICY ANLST IV	CORR/YTH/CLN SEC SUPV III
BUDGET ANALYST I	CORRECTIONS CASE MGR I
CORRL ACCOUNT SALES REP	ENGR/PHYS SCI TECH III
CRIMINAL INVESTIGATOR I	ENVIRON PROTECT SPEC II
CRIMINAL INVESTIGATOR II	ENVIRON PROTECT SPEC V
CUST SUPPORT COORD I	EQUIPMENT MECHANIC II
CUSTODIAN I	EQUIPMENT OPERATOR II
CUSTODIAN III	EQUIPMENT OPERATOR IV
DATA ENTRY OPERATOR I	FIN/CREDIT EXAMINER I
DATA ENTRY OPERATOR II	FIN/CREDIT EXAMINER II
DATA MANAGEMENT III	FINGERPRINT EXAMINER I
DENTAL CARE I	FOOD SERV MGR III
DENTAL CARE IV	GENERAL LABOR I
DENTIST I	GRANTS SPECIALIST II
DESIGNER/PLANNER	GROUNDS & NURSERY I
DIAG PROCED TECHNOL II	HEALTH CARE TECH I
DIETITIAN II	HEALTH PROFESSIONAL II
DIETITIAN III	HEALTH PROFESSIONAL III
DINING SERVICES III	HEALTH PROFESSIONAL IV
DINING SERVICES V	HEALTH PROFESSIONAL V
EARLY CHILDHOOD EDUC I	HEARINGS OFFICER II
ELECTRICAL TRADES II	HUMAN RESOURCES SPEC II
ELECTRICAL TRADES III	HUMAN RESOURCES SPEC III
ELECTRONIC ENGINEER II	HUMAN RESOURCES SPEC IV
ELECTRONIC ENGINEER III	HUMAN RESOURCES SPEC VII
ELECTRONICS SPEC II	INSPECTOR I
ELECTRONICS SPEC IV	INVESTMENT OFFICER III

Individual Benchmark Class Titles	
EMER PREP & COMM SPEC III	IT MANAGER
ENGINEER-IN-TRAINING I	IT PROFESSIONAL
ENGR/PHYS SCI ASST II	IT SUPERVISOR
ENGR/PHYS SCI ASST III	IT TECHNICIAN
ENGR/PHYS SCI TECH I	LABOR/EMPLOYMENT SPEC II
LABOR/EMPLOYMENT SPEC V	PHARMACIST III
LABORATORY SUPPORT I	PHARMACY TECHNICIAN I
LABORATORY TECHNOLOGY II	PHY SCI RES/SCIENTIST I
LANDSCAPE ARCHITECT I	PHY SCI RES/SCIENTIST II
LEGAL ASSISTANT II	PHY SCI RES/SCIENTIST III
LIBRARIAN I	PHYSICIAN II
LIBRARY TECHNICIAN I	PIPE/MECH TRADES II
LIF/SOC SCI RSRCH/SCI III	PIPE/MECH TRADES III
LIF/SOC SCI RSRCH/SCI IV	POLICE COMMUNICATION TECH
LTC OPERATIONS I	PRODUCTION I
LTC TRAINEE I	PRODUCTION V
MACHINING TRADES II	PROF LAND SURVEYOR I
MACHINING TRADES IV	PROFESSIONAL ENGINEER II
MANAGEMENT	PROFESSIONAL ENGINEER IV
MATERIALS HANDLER I	PROGRAM ASSISTANT I
MEDIA SPECIALIST II	PROGRAM ASSISTANT II
MEDIA SPECIALIST V	PROJECT COORDINATOR
MEDICAL RECORDS TECH II	PROJECT MANAGER I
MID-LEVEL PROVIDER	PROJECT PLANNER I
MKTG & COMM SPEC III	PROPERTY TAX SPEC II
MKTG & COMM SPEC V	PSYCHOLOGIST I
MKTG & COMM SPEC VI	PSYCHOLOGIST II
MUSEUM GUIDE	PUB HLTH MED ADMIN I
NURSE CONSULTANT	PURCHASING AGENT II
NURSE I	PURCHASING AGENT III

Individual Benchmark Class Titles	
NURSE II	PURCHASING AGENT IV
NURSE V	PURCHASING AGENT VI
OFFICE MANAGER I	RATE/FINANCIAL ANALYST II
PARK MANAGER II	RATE/FINANCIAL ANALYST III
PARK MANAGER IV	RATE/FINANCIAL ANALYST V
REAL ESTATE SPEC IV	STATISTICAL ANALYST II
REAL ESTATE SPEC VI	STATISTICAL ANALYST IV
RECORDS ADMINISTRATOR I	STRUCTURAL TRADES I
REHABILITATION COUNS I	STRUCTURAL TRADES II
REHABILITATION COUNS II	TECHNICIAN II
REHABILITATION SUPV I	TECHNICIAN III
REHABILITATION SUPV II	TECHNICIAN IV
RETAIL BUSN REP - ENTRY	THERAPIST II
SAFETY SECURITY OFF I	THERAPIST III
SAFETY SECURITY OFF III	THERAPY ASSISTANT II
SAFETY SPECIALIST II	THERAPY ASSISTANT IV
SAFETY SPECIALIST III	TRAINING SPECIALIST III
SAFETY SPECIALIST IV	TRAINING SPECIALIST V
SALES ASSISTANT III	TRANSPORTATION MTC I
SALES MANAGER II	TRANSPORTATION MTC II
SCHEDULER	UTILITY PLANT OPER I
SCINT PRGMR/ANLST II	VETERINARIAN I
SCINT PRGMR/ANLST IV	VETERINARIAN II
SECURITY I	VETERINARY TECHNOLOGY I
SECURITY III	VETERINARY TECHNOLOGY II
SERVICE DISPATCHER	WILDLIFE MANAGER I
SOCIAL WORK/COUNSELOR II	WILDLIFE MANAGER III
SOCIAL WORK/COUNSELOR III	WILDLIFE MANAGER V
STATE TEACHER I	YOUTH SERV COUNSELOR I

Published Survey Participation Overview

The information below is an outline of participation information as provided and available from each published survey in the GBS database.

CompData

Gallagher purchases the BenchmarkPro survey, which includes salary data that is cross-industry and represents more than 30,000 organizations and 11.9 million employees across the United States.

Mercer

Survey Title	Number of Participating Organizations	Incumbents Represented
Finance, Accounting, and Legal	2,568	288,634
Information Technology	2,286	353,000
South Central	1,310	293,237
Health Plan Operations	113	204,495
Healthcare Provider Individual Contributors	1,373	1,053,742

Industry	Representation (%)
Services (Non-Financial)*	35%
Other Manufacturing	12%
Consumer Goods	8%
Retail & Wholesale	7%
High Tech	6%
Insurance/Reinsurance	6%
Other Non-Manufacturing	6%
Banking/Financial Services	5%
Energy	5%
Transportation Equipment	3%
Chemicals	3%
Life Sciences	2%
Logistics	2%

Industry	Representation (%)
Mining & Metals	1%

*The services industry includes healthcare services, business/professional services, education, other services, government/public administration & other civic, social political or religious organizations, information & data processing services, and business process outsourcing.

Towers Watson

Survey Title	Number of Participating Organizations		Profit Status (US)		Most Populated Industry Sector
	South Central	US	Not-For-Profit (%)	For Profit (%)	
Information Technology	84	559	34%	65%	Services*
Office and Business Support	84	531	33.1%	66.9%	Services
Professional Administrative & Sales	84	537	33%	66%	Services
Professional Technical & Operations	81	528	34%	65%	Services
Supervisory & Middle Management	77	535	33%	66%	Services
Technical Support & Production	73	512	34%	66%	Services
Health Care Admin and Support	48	304	83%	13%	Hospitals
Health Care Clinical and Professional	48	323	83%	13%	Hospitals
Health Care Executive & Mgmt.	45	287	84%	13%	Hospitals

*The Services Industry Sector includes organizations from the public and private sector.

Retirement

Methodology for Valuation of Defined Benefit Plans

Survey participants provided the respective benefit formula and key plan provisions for their defined benefit plan. In order to determine and compare the value of such benefits, all plans were valued on a consistent basis outlined below. These characteristics are intended to show the full benefit earned through normal retirement. The compensation of \$55,000 is largely irrelevant, as retirement benefits are compared as a percentage of such compensation.

- For each plan, Gallagher projected retirement benefits for the same sample participant with the following characteristics:
 - Currently earning \$55,000 per year in plan compensation
 - Currently age 45
 - Hired at age 35
 - Retirement age of 65
- Salary increases of 4% annually were assumed. While this may not necessarily be the best assumption for a particular job class, age group, or service level, this assumption is intended to be reasonable overall for benefits comparison purposes.
- Gallagher assumed the form of benefit at retirement age was a life annuity with no survivor benefit.
- If plans provide a cost of living adjustment (COLA) to retirees, a COLA of 2% annually was assumed.
- Gallagher calculated the value of the total benefit earned through age 65, and such value was then converted to a consistent percent of pay throughout the sample participant's career. For these calculations, a 6% interest rate and the 417(e) unisex mortality table for 2016 was used.
- If any employee contributions were required for participation, then such contribution percentage directly decreased the value received by the sample participant as a percentage of pay.
- It was assumed that all plans have the same definition of compensation.
- No ancillary benefits were valued for any plan. This would include, for example, any death, disability or subsidized early retirement benefit provided under a plan.

Methodology for Valuation of Defined Contribution Plans

Survey participants provided the respective benefit formula and key plan provisions for their defined contribution plan. These were typically a flat percentage of pay or a matching contribution. The value provided by each plan was determined as follows:

- If a plan required and/or allowed employee contributions only (no employer contributions), Gallagher considered this to be no value provided to the participant.
- If the employer contributes a flat percentage of pay independent of any employee contribution, such percentage is considered an ongoing value provided by the employer.
- If the employer contributes based on a matching formula dependent on employee contributions, Gallagher considered the maximum attainable match to be the value provided by the employer.