State of Colorado
Office of the State Auditor

Evaluation of the Colorado Department of Personnel & Administration's Annual Compensation Survey

June 2021

Segal

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Members of the Legislative Audit Committee:

This report contains the results of a performance evaluation of the Department of Personnel & Administration's procedures and application of data in the Annual Compensation Survey. Section 24-50-104(4)(b)(I), C.R.S., requires the State Auditor to contract with a private firm to conduct this evaluation every 4 years. The report presents our findings, conclusions, and recommendations, and the Department's responses.

Regards,

Patrick Bracken
Vice President

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Annual Compensation Study

Performance Evaluation, June 2021

Department of Personnel & Administration

SUMMARY

The Department of Personnel & Administration (Department) followed industry practices and statutory requirements when conducting the Fiscal Year 2021 and Fiscal Year 2022 compensation studies. However, the Department also has opportunities to improve its annual compensation study process to ensure the validity and reliability of its data, analysis, and related conclusions.

KEY FINDINGS

- For Fiscal Years 2019 through 2022, the State's market position declined, changing between -5.5 percent to -16.4 percent of the market average from one year to the next. Some of these changes may be due, in part, to the different methodologies and data being used between the full year and maintenance year studies.
- Forty percent of benchmark jobs in the Fiscal Year 2021 full year study and 26 percent of benchmark jobs in the Fiscal Year 2022 maintenance year study only reference one market data source; using at least three data sources provides a more reliable measurement of the market position.
- Thirty percent of benchmark jobs showed more than a 10 percent change in market position between the Fiscal Year 2021 full year study and the Fiscal year 2022 maintenance year study, warranting further review to ensure the data are reasonable and appropriate.
- Eighty-six percent of benchmark jobs in the Fiscal Year 2021 full year study and 89 percent of benchmark jobs in the Fiscal Year 2022 maintenance year study relied on published salary survey data that was aged more than 24 months, generally making it less reliable.
- Salary information used in the compensation study was generally more reflective of the private sector.

BACKGROUND

- State statute defines the State's compensation philosophy as providing prevailing total compensation to ensure the recruitment, motivation, and retention of a qualified and competent work force.
- State statute requires the Department to annually assess prevailing total compensation practices, levels, and costs in the labor market as a basis for determining any necessary adjustments to state employees' salaries, benefits, merit pay and other elements of total compensation.

KEY RECOMMENDATIONS

- Assess and report on the impact of data differences on year-to-year changes in the State's market position.
- Use at least three market data sources for each benchmark job.
- Review benchmark jobs with median market base salaries that vary by 10 percent or more between studies.
- Avoid relying on salary survey data that is aged more than 24 months.
- Review benchmark jobs with significant differences between the lowest and highest median market base salary data points.
- Modify the custom survey to prioritize and provide more balance to public sector employers.
- Consider and assess alternatives to its full year—maintenance year study approach.

The Department agreed with all of the recommendations.

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Background

State statute [Section 24-50-104, C.R.S.] establishes Colorado's total compensation philosophy, which is 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." Total compensation includes, but is not limited to, salary, group benefit plans, retirement benefits, merit pay, incentives, premium pay practices, and leave. In support of recruiting, rewarding, and retaining a qualified workforce, the State Personnel Director's stated priorities are to (1) establish overall pay, benefits, retirement benefits, incentives, premium pay practices, and leave consistent with prevailing market practices; (2) move fully competent employees in the workforce toward the salary range midpoint for their job classification; and (3) reward employees in the workforce who are meeting or exceeding performance expectations.

On an annual basis, statute [Section 24-50-104(1)(a)(II), C.R.S.] requires the Department of Personnel & Administration (Department) to review the results of appropriate compensation surveys and assess prevailing total compensation practices, levels, and costs in the labor market. This annual compensation study provides the Department with a basis for determining whether the State's salaries, employer contributions to benefit plans, merit pay, and other elements of total compensation are comparable with other public and private employers and whether any adjustments are warranted [Section 24-50-104(4)(a), C.R.S.].

Statute [Section 24-50-104(4)(b) and (c), C.R.S.] also requires the State Personnel Director to prepare and submit by September 15 each year an Annual Compensation Report to the Governor and the General Assembly's Joint Budget Committee. This annual report provides an overall assessment of how well the State's total compensation aligns with the prevailing labor market, both in terms of the individual components of compensation (e.g., base salaries, benefits, and employer contributions to retirement), as well as the total compensation value. Based on information in the Annual Compensation Report, the Department requests funding necessary to maintain the salary structure, state contributions for group benefit plans, and merit pay for the upcoming fiscal year. Throughout this report, we refer to the Annual Compensation Report based on the year it affects the budget, not when the report was issued. For example, the Fiscal Year 2021 compensation study and corresponding Annual Compensation Report, which was published in September 2019, affected the Fiscal Year 2021 budget.

Table 1 provides a summary of the market comparison from the Department's Fiscal Year 2021 and Fiscal Year 2022 Annual Compensation Reports. Consistent with industry best practices for compensation studies, the Department uses an average median value to reflect the market position. The median is a key statistic used in compensation analyses because it tends to be less influenced by possible outliers in the data. The market position is ideally derived by averaging the median compensation value (e.g., base salary) for the same positions from multiple data sources.

When looking at the variance between the State and the prevailing market, positive values indicate that the State's compensation is higher than the market and negative values indicate that the State's compensation is lower than the market. The Department uses the following industry guidelines when assessing the "competitiveness" of the State's compensation relative to the prevailing market:

- +/- 5% = Highly Competitive
- +/- 10% = Competitive
- +/- 10-15% = Potential Misalignment with Market
- More than +/- 15% = Significant Misalignment with Market

Overall, the State Personnel Director concluded that the State's total compensation package is misaligned with the market. The State's total compensation value fell below the market by 11.5 percent (potential misalignment) in Fiscal Year 2021 and 16.4 percent (significant misalignment) in Fiscal Year 2022, showing an increasing variance between total compensation provided by the State and the prevailing market. Looking at base salaries specifically, the State Personnel Director concluded that the State had moved out of the competitive range. The State's average base salary fell below the market median base salary by 4.8 percent in Fiscal Year 2021, which meant the State's average base salary was considered "highly competitive" at the time. In the Fiscal Year 2022 analysis, the State's average base salary had fallen to 11.6 percent below the market median base salary, which indicates "potential misalignment" with the market.

Table 1. Annual Compensation Study Results, Fiscal Years 2021 and 2022

Component of Total Compensation	FY 2021 Annual Compensation Report			FY 2022 Annual Compensation Report		
	State Average	Prevailing Market	Variance to Market	State Average	Prevailing Market	Variance to Market
Average Base Salary[1]	$66,052	$69,371	-4.8%	$66,033	$74,676	-11.6%
Average Incentive Pay[2]	n/a	$2,879	n/a	n/a	$4,997	n/a
Medical	$10,015 15.2% of base pay	$12,099 17.4% of base pay	-17.2%	$11,000 16.7% of base pay	$11,000 14.7% of base pay	0.0%
Dental	$465 0.7% of base pay	$478 0.7% of base pay	-2.7%	$521 0.8% of base pay	$495 0.7% of base pay	+5.0%
Vision	Included in medical	$0 0% of base pay	n/a	Included in medical	$28 0.04% of base pay	n/a
Retirement[3]	$7,398 11.2% of base pay	$9,781 14.1% of base pay	-20.6%	$7,198 10.9% of base pay	$10,081 13.5% of base pay	-19.3%
Short-Term Disability[4]	—	—	—	$99 0.15% of base pay	$0 0% of base pay	n/a
Long-Term Disability[5]	$0 0% of base pay	$208 0.3% of base pay	n/a	$0 0% of base pay	$224 0.3% of base pay	n/a
Life and AD&D	$108 0.2% of base pay	$108 0.2% of base pay	0.0%	$86 0.13% of base pay	$119 0.16% of base pay	-18.8%
Total Compensation Value	$84,038	$94,914	-11.5%	$84,937	$101,620	-16.4%

Source: Department of Personnel & Administration, Annual Compensation Reports.

[1] Average base salary of all benchmark classifications at the State, and prevailing market average base median salary of all benchmark classifications.

[2] State of Colorado has non-base incentive programs.

[3] Retirement variance is the percent difference between the percent of base pay for the State and prevailing market, not the percent difference of the dollar values.

[4] A value for short-term disability was added in Fiscal Year 2022 because it is a cost to the employer that is a benefit to the employee. There is not a prevailing market value.

[5] Does not include disability provisions through the Public Employees Retirement Association (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.

Evaluation Purpose, Scope, and Methodology

State statute requires the State Auditor to contract with a private firm every 4 years to conduct a performance evaluation of the Department's procedures and application of data in the Annual Compensation Survey, including any survey conducted by the State Personnel Director [Section 24-50-104(4)(b)(I), C.R.S.]. The State Auditor contracted with The Segal Company (Western States) Inc., d/b/a Segal to conduct this evaluation. Founded in 1939, Segal is a leading national firm of benefit, compensation, and human resources consultants. Segal has offered human resources consulting services dedicated to our public sector clients since 1997, providing compensation services to clients in 40 states. The project team for this evaluation has more than 25 years of experience in the evaluation and design of classification and compensation systems and performing total compensation market studies and assessments in both the public and private sectors.

The objective of this evaluation was to determine whether the Department's methodology for conducting the annual compensation study was reasonable and consistent with sound professional practice and statutory criteria. Evaluation work was performed from October 2020 through May 2021. We appreciate the assistance provided by Department management and staff during the course of this evaluation.

To accomplish the evaluation objective, we conducted the following work:

- Reviewed applicable statutes, rules, and Department policies and procedures.

- Reviewed the Fiscal Year 2021 and Fiscal Year 2022 compensation surveys and the related Annual Compensation Reports, including underlying raw data spreadsheets, market survey reports, and other supporting documentation and analyses.

- Conducted an in-depth review of the following processes: labor market definition and data sources, data adjustment process, occupational group analysis and range adjustment determination, and job matching process.

- Interviewed Department management and staff about the methods employed in conducting the annual compensation studies and related analyses.

- Reviewed findings and recommendations from prior audits and evaluations related to the Department's compensation studies.

- Reviewed best practices in performing compensation studies, including those promoted by human resources professional associations such as WorldatWork, Society for Human Resource Management (SHRM), International Public Management Association for Human Resources (IPMA-HR), and Economic Research Institute (ERI).

Annual Compensation Study Process

State statute establishes the State's primary labor market and mandates that the annual compensation study include a fair sample of public and private sector employers and jobs, including areas outside of the Denver metropolitan area [Section 24-50-104(4)(a), C.R.S.] Determining how well the State's total compensation plan compares to the labor market requires that the Department measure compensation provided by other employers through annual compensation surveys. Professional compensation firms publish annual surveys that employers can purchase and use when comparing their compensation plans to those of other employers. Employers may also conduct custom surveys of peer employers within their labor market. Custom surveys often allow employers to obtain more current and comparable compensation data from employers that best reflect their defined labor market, but they require more time and resources than using published surveys.

Every other year, the Department contracts with a third-party compensation consultant to conduct a comprehensive total compensation study (referred to as the "full year" study) based on analysis of salary and benefit information for a representative cross-section of job classifications within the State's classified personnel system that can be matched with similar positions in other public and private sector organizations. We refer to these as "benchmark jobs" throughout this report. The Department's consultant also prepares a manual that documents the data sources and methodology used in the study. In the alternative year, the Department uses in-house resources to perform a smaller-scale "maintenance year" study based on its contractor's methodology.

The Department's full year study is designed to be comprehensive and compare the value of the State's total compensation package with the prevailing market. For the Fiscal Year 2021 full year study, the Department's contractor collected market data for 217 benchmark jobs, or about 33 percent of the State's 668 classified jobs; these 217 benchmark jobs represented about 64 percent of the classified employee population. The primary labor market represented both public and private sector employers. In performing its study, the Department's contractor obtained and analyzed published compensation survey data about public and private sector employers from a number of sources:

- CompData Benchmark Pro 2018 Survey Library
- Mercer 2018 Survey Library
- 2019 Employers Council Colorado Benchmark Compensation Survey
- 2019 Employers Council Information Technology Compensation Survey
- 2019 Employers Council Public Employers Compensation Survey
- National Compensation Association of State Government (NCASG) 2018 Survey
- Willis Towers Watson 2018 Survey Library
- Economic Research Institute (ERI)

In addition to using published surveys, the Department's contractor conducted a custom survey to capture data relating to the State's labor market that was not sufficiently available in the published surveys, such as more extensive benefits data as well as salary data for certain positions unique to state government. The custom survey was sent to 133 large public and private employers in Colorado and other states; 30 employers (21 public sector organizations and 9 private sector organizations) responded to the custom survey. Examples of key peer organizations that responded to the custom market survey are: Adams 12 Five Star Schools, City of Arvada, City of Aurora, City of Boulder, Colorado Springs Utilities, Denver Water, State of Indiana, State of Kansas, and State of Louisiana.

For the Fiscal Year 2022 maintenance year study, the Department received updated published salary survey data from its contractor for a subset of benchmark job classifications and conducted a custom survey to compare the value of the State's benefits with the market. For the Fiscal Year 2023 full year study, which is currently underway and was not included in the scope of this evaluation, the Department again hired a contractor to conduct the study.

Based on its annual compensation studies, the Department makes recommendations to the Joint Budget Committee and the Governor on salary and benefit adjustments for the upcoming fiscal year. For example, if the compensation study indicates that state employees' salaries are significantly below market levels, this conclusion may lead the Department to recommend salary adjustments to address the gap. Conversely, if the Department's analysis shows that state employees' salaries are competitive with the market, the Department may not recommend any salary adjustments.

Overall, our evaluation of the Department's methodology for the Fiscal Year 2021 and Fiscal Year 2022 annual compensation surveys found that the survey approach, conclusions, and recommendations are reasonable and consistent with industry practices and statutory criteria. We also reviewed the implementation status of audit recommendations from the OSA's Performance Audit of the Department of Personnel & Administration's Annual Compensation Study (May 2017) and found that the Department has implemented the audit recommendations. However, as discussed in the remainder of this report, we also identified several opportunities for the Department to continue to improve its annual compensation study process to ensure the validity and reliability of its data, analysis, and related conclusions. We also suggest evaluating an alternative approach to the annual compensation study that moves away from the Department's full year—maintenance year approach, thereby increasing the efficiency and cost-effectiveness of the process.

Ensuring Data Validity and Reliability

Establishing a technically and professionally sound survey methodology consists of several interrelated factors and decisions that collectively support which data are gathered (i.e., the frequency, scope, and type of surveys to perform, as well as whether to gather compensation data directly from employers or to purchase survey data from professional compensation firms), how the data are analyzed, and what conclusions can be reached.

What problems did the evaluation work identify, how were the results measured, and why did they occur?

Overall, we identified a number of issues that indicate that the Department needs to conduct a more thorough and documented review of the underlying data used for its annual compensation survey, including identifying and vetting significant data variances, to ensure the data's validity and reliability for use in the market analysis.

- **Significant changes in the State's market position occur between the Department's full year and maintenance year studies.** We reviewed the State's total compensation value compared to the prevailing market value, as reported in the Department's Fiscal Years 2019 through 2022 Annual Compensation Reports. As shown in Table 2, based on the Department's analysis for the full year and maintenance year studies, we found the State's market position changed between 25 percent and 65 percent from one year to the next during the 4-year period.

Table 2. State of Colorado Total Compensation Value Compared to the Prevailing Market Value, Fiscal Years 2019 through 2022 Annual Compensation Reports

Fiscal Year	Full Year or Maintenance Year	State Total Compensation Value	Prevailing Market Value	State Total Compensation Value Relative to Prevailing Market Value (Market Position)	Percent Change in Yearly Market Position
2018-2019	Full	$82,684	$87,533	-5.5%	-
2019-2020	Maintenance	$83,927	$92,405	-9.2%	67%
2020-2021	Full	$84,038	$94,924	-11.5%	25%
2021-2022	Maintenance	$84,937	$101,620	-16.4%	43%
Source: Segal's analysis of the Department of Personnel & Administration's Annual Compensation Reports.					

Given the number of benchmark jobs surveyed and the total number of data sources referenced in the analysis, we typically would expect to see annual movement of overall average compensation in the +/- 2 to 5 percent range. This is mostly due to the broad composition of jobs surveyed and the varied set of employers (i.e., private, public, multiple industries) upon which the compensation data is collected. This broad-based approach would generally capture the varied industry or occupational-level increases and decreases in employee compensation and would usually balance out the effect any one industry's current experience is having on the overall trend. Larger fluctuations in the market position (i.e., more than +/- 5 percent on an overall average basis) are uncommon and would typically only occur if there were significant changes made to the structure of the State's compensation package each year. Although no significant changes to the structure of the State's compensation package were made during the time period we reviewed, the Department noted that the value of employees' PERA retirement benefit has gone down since the passage of Senate Bill 18-200 to address PERA's unfunded liability, contributing to larger changes in the State's total compensation value relative to the market. In Fiscal Year 2019, the value of the PERA retirement benefit was $9,758 (15.5 percent of base pay), and in Fiscal Year 2022, the value was $7,198 (10.9 percent of base pay).

It is likely that the year-to-year “movement” in the State’s total compensation value relative to the prevailing market is not solely the result of market changes and is being influenced, at least in part, by differences in the comparability of the methodology and data being used between the Department’s full year and maintenance year studies. For example, the Fiscal Year 2021 full year study relied on salary information from published survey data for private and public sector entities, as well as salary and benefit information from a custom survey of peer public and private sector entities. By comparison, the Fiscal Year 2022 maintenance year study relied on *salary* information for private and public sector employers from updated published data sources, but only included a custom survey of public and private sector peer *benefit* data. The maintenance year study did not include custom survey data on public sector salaries; thus, a key component of the market analysis is missing from the maintenance year study when compared to the full year study. We recognize that the maintenance year study is designed to be narrower in scope. However, the Department has not fully considered the potential effect that these types of data differences between its full year and maintenance year studies can have on changes in the State’s market position from one year to the next.

- **Up to 40 percent of benchmark jobs only reference one market data source.** Market surveys provide a snapshot of a labor market at a particular point in time, and no single survey can capture the full dynamics of labor markets in the United States. Therefore, industry best practices recommend using at least three data sources to establish the market position for each benchmark job. That is, an average of three data points from different surveys generally provides a more reliable measurement of the market position than a single data point from one survey. As shown in Table 3, we found that the average median market base salary reported for 40 percent and 26 percent of benchmark jobs in the Fiscal Year 2021 and 2022 compensation studies, respectively, was based on only one data source.

Table 3. Percentage of Benchmark Jobs with One Market Data Source, Fiscal Years 2021 and 2022

Annual Compensation Study	Total Number of Benchmark Jobs with Available Data	Number of Benchmark Jobs Using One Market Data Source	Percentage of Total Benchmark Jobs Affected
Fiscal Year 2021	217	86	40%
Fiscal Year 2022	233	61	26%

Source: Segal’s analysis of data from the Department of Personnel & Administration’s annual compensation studies.

Although there may be instances when referencing just one published data source could be appropriate, this practice should generally be minimized since there is less assurance that the market position for the benchmark job has been appropriately measured. When only one data source is used, the market position is also more likely to experience greater year-to-year variation, as we discuss in the next bullet point.

The Department's contractor reported considering the following factors in the selection of benchmark jobs:

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

However, the large percentage of benchmark jobs that only reference one published data source suggests a conflict with the selection criteria of having jobs that are found in most organizations. The Department may need to reassess whether jobs with only one referenced data source should continue to be used as benchmarks. Consistent with best practices and our recommendations to other clients, the Department should ensure that at least three data sources are referenced for each benchmark job.

- **30 percent of benchmark jobs showed significant changes in market position between the full and maintenance year compensation studies.** Year-to-year changes in compensation levels for benchmark positions are expected to occur, presumably reflecting actual changes in the labor market. However, significant changes from one year to the next can also indicate potential problems with the underlying data, such as benchmark jobs that were inaccurately matched or shifts in the published data from one year to the next affecting over-time comparability. WorldatWork recommends not relying on survey data if there is a variance of greater than 10 percent between years that cannot be explained. Overall, we identified 71 of 239 benchmark jobs (30 percent) with a difference of more than 10 percent in the average median market base salary between the Fiscal Year 2021 and Fiscal Year 2022 compensation studies. The average absolute variation for these 71 benchmark jobs was 30 percent, and ranged from -11.4 percent for the "Criminal Investigator II" position to +33.5 percent for the "Contract Administrator VI" position. That is, between the full year and maintenance year studies, the Criminal Investigator II position saw the biggest percent decrease in the average median market base salary and the Contract Administrator VI position saw the biggest percent increase in the average median market base salary. Table 4 provides the 10 benchmark jobs with the most significant changes in the average market median base salary between the recent full year and maintenance year studies.

Table 4. Ten Benchmark Jobs with the Most Significant Changes in Average Median Market Base Salary, Fiscal Year 2021 to Fiscal Year 2022

Benchmark Job	Average Median Market Base Salary Fiscal Year 2021	Average Median Market Base Salary Fiscal Year 2022	Percent Difference
Criminal Investigator II	$75,573	$66,942	-11.4%
Auditor I	$58,562	$51,959	-11.3%
Property Tax Specialist II	$53,252	$66,793	25.4%
Fingerprint Examiner I	$43,355	$54,553	25.8%
Electronics Specialist IV	$85,221	$107,596	26.3%
Long Term Care Trainee I	$42,754	$54,305	27.0%
Data Entry Operator I	$41,374	$52,714	27.4%
Compliance Investigator II	$79,046	$102,695	29.9%
Environmental Protection Specialist V	$121,959	$159,025	30.4%
Contract Administrator VI	$109,488	$146,194	33.5%
Source: Segal's analysis of data from the Department of Personnel & Administration's annual compensation studies.			

As part of its Fiscal Year 2022 maintenance year study, the Department used survey data for benchmark jobs with significant differences from the prior year's compensation study. During our interviews, Department staff reported performing "spot-checks" on certain data elements and year-to-year changes in their contractor's compensation analysis. However, based on our evaluation, significant differences in benchmark jobs' average median market base salary between the full year and maintenance year studies were not fully reviewed before including the data in the analysis for the maintenance year study. Because of their potential influence on the overall market position, benchmark jobs with significant year-to-year differences should, at a minimum, be flagged for further review to gain assurances over the underlying data. Only after confirming the absence of underlying data issues should significant year-to-year differences for the associated benchmark jobs reasonably be attributed to actual changes in the market position.

- **The Department relied on published compensation survey data that is more than 24 months old for a large percentage of benchmark jobs.** Data compiled in published compensation surveys are historical in nature, reflecting compensation at a specific point in time (e.g., March 1). Consistent with standard professional practice, the data are then "aged" to estimate likely compensation levels in the market at a future date (e.g., July 1). This aging process accounts for differences in the timing of survey data collection and ensures that an organization's salaries and the comparable market salaries are being measured at a single, consistent point in time. The Department uses an annual aging factor of 3 percent, consistent with WorldatWork's Salary Budget Survey. However, organizations such as WorldatWork and the Society for Human Resources Management also generally recommend not using data that is more than 24 months old.

As shown in Table 5, we found that there were 186 benchmark positions in the Fiscal Year 2021 full year study and 208 benchmark positions in the Fiscal Year 2022 maintenance year study for which the Department and its contractor relied on published salary data that were more than 24 months old. For each of these years, the difference between the effective dates of the published survey data and the date of the Department's analysis averaged about 28 and 26 months, respectively. However, data used for some benchmark positions was more than 39 months old.

Table 5. Benchmark Jobs with Salary Data Aged More Than 24 Months, Fiscal Years 2021 and 2022

Annual Compensation Study	Total Number of Benchmark Jobs	Number of Benchmark Jobs with Salary Data Aged More Than 24 Months	Percentage of Total Benchmark Jobs Affected	Number of Months Between Survey Effective Date and Analysis Date
Fiscal Year 2021	217	186	86%	Average = 27.7 months Minimum = 24.4 months Maximum = 29.4 months
Fiscal Year 2022	233	208	89%	Average = 25.5 months Minimum = 24.4 months Maximum = 39.6 months

Source: Segal's analysis of data from the Department of Personnel & Administration's annual compensation studies.

For example, one of the market survey data sources (CompData Benchmark Pro – South Central, 2018) used for the "Admin Assistant III" benchmark job had an effective date of February 1, 2018, which means that the Department aged the data forward more than 29 months to use in its Fiscal Year 2021 full year study. As another example, one of the market survey data sources (WTW General Industry Professional Administrative & Sales, 2018) used for the "Budget Analyst I" benchmark job had an effective date of April 1, 2018, which means that the Department aged the data forward more than 39 months to use in its Fiscal Year 2022 maintenance year study.

Aging market survey data is an acceptable and common approach. However, using data that is more than 24 months old reduces the validity and reliability of the data that the State is using to establish the prevailing market position in its analysis. This is of particular concern in the maintenance year study since the published data sources are the only salary data considered when establishing each benchmark job's market positon. Also, applying WorldatWork's 3 percent per-year aging factor over a longer time period means the Department's analysis may not fully capture the more nuanced market movements in certain benchmark jobs (e.g., hard-to-recruit positions that are in high demand, such as nurses or engineers) that using more current survey data could provide.

Ensuring the availability of current salary survey data is an ongoing challenge for the Department and was the focus of a recommendation in the Office of the State Auditor's 2017 performance audit. Subsequent to that audit, the Department included clearer expectations in its solicitations and contracts to obtain contractors with sufficient capacity to obtain up-to-date compensation surveys, and the Department adjusted its timelines to allow for the inclusion of surveys published in late spring and summer prior to the September 15 deadline for its Annual Compensation Report to the Governor and the General Assembly. Nonetheless, the Department reports that, due to the February—April publication dates of some major surveys and its contractor not purchasing all surveys every year, some data are still being aged beyond the 24-month threshold. Additionally, the Department reported that the expected publication of 2020 survey data, which would have provided more current survey data for its Fiscal Year 2022 maintenance year study, was pushed to early 2021 as a result of the COVID-19 pandemic. As we discuss further in Recommendation 2, alternative approaches to the annual compensation study that move away from the full year—maintenance year approach could alleviate the current situation in which the Department must choose between either not having a sufficient number of data points for benchmark jobs or aging the data beyond 24 months.

- **Survey data used for 13 percent of benchmark jobs in Fiscal Year 2022 had significant differences between the lowest and highest median market base salary values.** Consistent with industry best practices, multiple data sources should be used to establish the market position for each benchmark job; therefore, the market median base salary reported for a benchmark job in the Department's compensation studies represents an *average* of all available median base salary survey data points for that job. For example, a benchmark job with median base salaries of $53,000, $58,000, and $60,000 reported in three different respective salary surveys would have an average market median base salary of $57,000. The difference between the highest and lowest values, also known as the range, is $7,000, or about 12 percent of the average median base salary for this hypothetical job. The average remains a valid and accurate measure of central tendency for a dataset regardless of how the data are distributed; however, a narrower range relative to the average, which is expressed as a lower percentage, generally indicates less variability and more precision in the data. A wider range relative to the average, which is expressed as a higher percentage, generally indicates more variability and less precision in the data.

  We analyzed the salary survey data used in the Department's Fiscal Year 2022 maintenance year study and identified 31 of 233 benchmark jobs (13 percent) with a difference of $25,000 or more between the highest and lowest median market base salary values reported in the survey data used for the positions. Table 6 provides details for the 10 benchmark jobs from our analysis with the most significant differences. For example, the "Materials Handler I" position had an average median market base salary of $40,037 based on five survey data sources. The data points comprising this average ranged from a low of $26,185 to a high of $55,117. The nearly $29,000 difference between the lowest and the highest values represents about 72 percent of the average median market base salary, thereby indicating more variability and less precision in the data for this benchmark job.

Table 6. Ten Benchmark Jobs with the Most Significant Differences Between the Lowest and Highest Median Market Base Salary Values Reported in the Survey Data, Fiscal Year 2022

Benchmark Job	Median Market Base Salary			Difference Between Lowest and Highest Values (Range)	Range as a Percentage of the Average
	Lowest Value	Highest Value	Average		
Budget & Policy Analyst IV	$83,668	$214,866	$132,621	$131,198	98.9%
Materials Handler I	$26,185	$55,117	$40,037	$28,932	72.3%
Diagnostic Procedures Technician II	$47,499	$93,413	$64,431	$45,914	71.3%
Professional Engineer IV	$111,374	$200,741	$162,311	$89,367	55.1%
Marketing & Communication Specialist VI	$94,952	$162,574	$128,763	$67,622	52.5%
Auditor V	$103,670	$166,724	$135,197	$63,054	46.6%
Psychologist I	$74,439	$118,688	$96,564	$44,249	45.8%
Program Assistant II	$49,740	$77,014	$59,552	$27,273	45.8%
Electronics Engineer II	$80,952	$129,831	$110,615	$48,879	44.2%
Electronics Specialist I	$51,900	$77,695	$61,194	$25,795	42.2%

Source: Segal's analysis of data from the Department of Personnel & Administration's annual compensation studies.

Variability in the survey data is not necessarily a problem. However, similar to the previous discussion about significant changes in market position for benchmark jobs, significant differences between the lowest and highest market data points being used for a benchmark job can indicate potential data problems. For example, depending on the distribution of the data, averages can be affected by more extreme values. A closer review of the underlying survey data could help determine whether the benchmark jobs have been properly matched or whether extreme low- and high-value data points being included in the calculations are reasonable and appropriate. For example, the Department reported that some of the wider ranges observed in the salary survey data may be appropriate since they reflect an array of subspecialties within that one benchmark job. The "Diagnostic Procedures Technician II" classification is inclusive of electrocardiogram technicians, surgical technicians, ultrasound technicians, and cardiovascular technicians. As mentioned previously, Department staff reported performing "spot-checks" on certain data elements and year-to-year changes in their contractor's compensation analysis. However, there did not appear to be a thorough review to consider the variability in the underlying survey data before calculating the average median market base salary for these benchmark jobs in its Fiscal Year 2022 maintenance year study.

- **Data cuts are not being used consistently between the full year and maintenance year studies.** Published salary survey data used in market compensation studies are designed to allow users to break out the data into subsets based on different characteristics (e.g., metropolitan area, state, region, sector, industry). Known in the industry as "data cuts," these subsets provide the compensation information for the comparable labor market in which the State competes for the matched benchmark jobs.

For example, the Department uses local area data cuts for lower level jobs and national and public sector data cuts for senior and management level jobs. We identified two areas where the comparability of data cuts between the Fiscal Year 2021 and Fiscal Year 2022 compensation studies appeared to be inconsistent.

First, we identified 16 benchmark jobs where the Department used a different data cut from the same salary survey in the full year and maintenance year studies. The reported base salary data from these salary surveys differed by as little as 16 percent and by as much as 51 percent, with an average difference of 28 percent between each year's analysis. As an example, Table 7 illustrates the comparative detail for two benchmark jobs. In the case of the "Nurse I" position, the referenced base salary from the Mercer Metro Benchmark - South Central survey was $78,908 in Fiscal Year 2021. The same Mercer salary survey was used in Fiscal Year 2022 as a data source for the "Nurse I" position; however, a different data cut was used and the referenced base salary was $59,337, or about 25 percent lower. It is highly likely that the 25 percent change in the reported Nurse I base salary from the Mercer survey data was not the result of market movement, but, rather, the fact that a different data cut was used in the analysis from one year to the next.

Table 7. Examples of Unadjusted Market Base Salary Average for Benchmark Jobs Based on Different Data Cuts from the Same Salary Survey, Fiscal Years 2021 and 2022

Benchmark Job	Dining Services V		Nurse I	
Fiscal Year	2021	2022	2021	2022
Name of Salary Survey Used	WTW General Industry Supervisory & Middle Management		Mercer Metro Benchmark - South Central	
Name of Data Cut Used	Total Sample; Org Weighted	Total Sample	All Data: South Central	Employee Location - Region (in-country): South Central
Unadjusted Market Base Salary Average[1]	$53,305	$43,672	$78,908	$59,337
Percent Difference, Fiscal Year 2021 to 2022	-18.07%		-24.80%	

Source: Segal's analysis of data from the Department of Personnel & Administration's annual compensation studies.
[1] Data were not adjusted for aging or geographic differences.

Second, we found that one of the public sector data sources (i.e., NCASG) used in the Fiscal Year 2022 maintenance year study included job matches for employers in California and Washington. These two states were excluded from the data cuts in the Department's Fiscal Year 2021 full year compensation study because they are not on the Department's list of comparable peer states. Typically, California and Washington have much higher salaries, and inclusion of these data would have an upward effect on the average median market base salary used in the market analysis. We estimate that the inclusion of data for California and Washington in the Fiscal Year 2022 maintenance year study increased the referenced market salary for the 76 benchmark jobs using this data source by an average of about 4 percent.

We understand that some published surveys the Department uses may not have the exact data cut available between study years; however, because the data cuts reflect the State's defined labor market, any misalignment will affect the resulting market analysis. Identifying and reviewing the data cuts for these types of differences is important for gaining assurances that the data remain comparable, reasonable, and are being applied consistently in the analysis.

- **Salary information used in the compensation study is more reflective of the private sector.** State statute establishes the State's primary labor market and mandates that the annual compensation study include a fair sample of public and private sector employers and jobs [Section 24-50-104(4)(a), C.R.S.]. The Department obtains salary information for both public and private sector employers as part of its full year and maintenance year studies. However, the data sources being used for salary information more heavily represent private sector employers. For example, in the Fiscal Year 2021 Annual Compensation Report, the Department reported that the CompData Benchmark Pro (West Region) dataset includes information for 74 private sector and 10 public sector employers and "the Willis Towers Watson surveys are typically comprised of thousands of participating organizations, with the majority of participants being in the private sector." Gathering data through a custom survey is a way to provide balance in the data for public sector employers. However, we found that 66 percent of the entities invited to participate in the Department's custom survey for the Fiscal Year 2021 full year study were private sector entities. The Fiscal Year 2022 maintenance year study did not include any custom survey data on public sector salaries; therefore, the maintenance year study is perhaps even more reflective of private sector salaries than the full year study. Since private sector employers are already well represented in the published survey data, the Department should modify its approach to the custom survey to prioritize and provide more balance to public sector employers when gathering salary information. It is reasonable that the Department continue to use the custom survey to gather benefit information for both public and private sector employers since benefit information is not available in published survey data, even for private sector employers.

- **The methodology for including incentive pay warrants additional review.** The Department's full year compensation study calculates the total compensation value, which includes base salary, incentive pay, benefits, and retirement. In its Fiscal Year 2021 Annual Compensation Report, the Department reported that 44 percent of respondents to the custom survey offer an incentive pay program, with the majority being private sector entities. This statement indicates that there are some data available for incentive pay in the public sector; however, the Department's custom survey did not collect these data. Although incentive pay may not be as prevalent in the public sector, the Department's total compensation analysis is nonetheless limited without collecting and using available incentive pay data from the public sector. Additionally, if there is no reported incentive pay for a published data source, the Department excludes the data from the calculation, rather than listing the value of the incentive pay as $0. As a result, based on our assessment, the reported incentive pay value included in the total compensation calculation does not reflect the average of all data sources and overstates the incentive pay value. Table 8 provides an example of the current incentive pay calculation for the “Utility Plant Operator I” position and an alternative calculation that considers all data sources.

Table 8. Example of Incentive Pay Calculation for Benchmark Job – Utility Plant Operator I

Salary Survey Data Source	Current Incentive Pay Calculation	Alternative Incentive Pay Calculation
Employers Council Benchmark - Arizona, Colorado, Utah & Wyoming, 2020	N/A	$0
WTW General Industry Engineering, Design & Technical Specialty, 2018	$2,838	$2,838
Average Incentive Pay	$2,838	$1,419
Source: Segal’s analysis of data from the Department of Personnel & Administration’s annual compensation studies.		

Why does this problem matter?

One of the most important outcomes of the Department’s annual compensation study process is a determination of whether state employees’ salaries and benefits are competitive with the prevailing market. It is critical that the annual compensation study process is as robust as possible to ensure the validity and reliability of the underlying data and, consequently, that the analyses reasonably and accurately reflect the prevailing labor market and actual compensation movement over time. Without such assurances, there is increased risk that the Department’s recommended adjustments to improve the competitiveness of state employee salaries and benefits may result in over- and under-compensating employees relative to the prevailing labor market.

Recommendation No. 1:

The Department of Personnel & Administration (Department) should continue to strengthen its annual compensation study process and ensure the validity and reliability of the underlying data being used to assess the prevailing labor market by:

a. Assessing and reporting on the impact of data differences between the full year and maintenance year studies on year-to-year changes in the State’s market position.

b. Using at least three market data sources for each benchmark job. If this cannot occur, the Department should reassess whether the job is appropriate for continued use as a benchmark.

c. Reviewing benchmark jobs with median market base salaries that vary by 10 percent or more between full and maintenance year compensation studies to identify and correct any underlying data issues before relying on the data for the market analysis.

d. Continuing efforts to obtain salary survey data that is as current as possible and avoiding relying on data that is aged more than 24 months.

e. Reviewing those benchmark jobs with significant differences between the lowest and highest median market base salary data points from the salary surveys for reasonableness and appropriateness.

f. Reviewing the referenced data cuts for the full year and maintenance year compensation studies to ensure they remain comparable, reasonable, and consistently reflect the State's defined labor market.

g. Modifying the custom survey to prioritize and provide more balance to public sector employers when gathering salary information.

h. Modifying the custom survey to collect available incentive pay data from public sector employers and reassessing the incentive pay calculation to ensure that it reflects an average of all published data sources.

Department of Personnel & Administration Response:

a. Agree. Implementation Date: September 2023.

The Department will continue to review the data differences between the full year and maintenance year and make note of significant differences from year to year. To the extent possible, the Department will provide analysis and justification as to why the differences may exist.

The Department is currently in the middle of its analysis with the new vendor, therefore the first possible date of implementation will be during the next full total compensation report analysis in 2023.

b. Agree. Implementation Date: September 2021.

It is the intent of the Department to use at least three market data sources for each benchmark job while ensuring that this is a mix of private and public sector data. The Department has gone over this with the new vendor who is providing access to additional surveys, etc. to make this possible.

The Department will continue to work with its current total compensation vendor to assess the validity and applicability of data that has fewer than three market data sources. The Department will work with the vendor to address any concerns regarding the inclusion of these data points.

c. Agree. Implementation Date: September 2023.

The Department will review this in conjunction with recommendation part (a) above. When a variance of 10% or more between the full and maintenance year studies is found we will take at a minimum, the following steps, to determine if the variance is accurate before relying on the data for market analysis: ensure that the benchmark is correctly matched, review any changes to surveys used from year to year, assess whether the survey should continue to be used, assess the data cut used, and review that aging and geographical indicators were properly applied.

Please note that these steps are taken prior to making recommendations for coordinated compensation requests and system maintenance studies.

The Department is currently in the middle of its analysis with the new vendor, therefore the first possible date of implementation will be during the next full total compensation report analysis in 2023.

d. Agree. Implementation Date: September 2021.

The Department will continue efforts to obtain salary survey data that is as current as possible and to the extent possible, avoid relying on data that is aged more than 24 months.

e. Agree Implementation Date: September 2021.

The Department is currently undergoing the level of data review with the new vendor. One of these steps is looking at the benchmark and then looking at each matched survey data point. In a few instances we have noted that one data point may have been matched incorrectly. For example, the benchmark job was an entry level and one of the survey data points was matched at a supervisor, resulting in a high market median data point.

The Department is also working with the current vendor to weight the survey sources. For example, if there are three matches of private, private and public, the weights may be 25%, 25% and 50%.

The Department agrees that an assessment of the differences between median position within a job class is an excellent practice. After review, if the data points present are considered to be reasonable and appropriate, the Department, erring on the side that the published surveys are accurate and comparable, will move forward using the median salary data points for market analysis.

f. Agree. Implementation Date: September 2023.

The Department is currently undergoing the process of selection and validating new benchmarks and then reviewing the data cuts, as compared to previous reports. Benchmark selection is reflective of an entry level job and when possible, a supervisory job, is representative of a large portion of the State's workforce and is a job that can be matched to at least 80% of the duties found in the market. Data cuts are selected by looking at the local, regional and state level of where the incumbents for the job may be found. Additionally, we will ensure that there is sound justification for the selection of data cuts and their reflection of the State's defined labor market. For example, if multiple states are used in the NCASG data cuts, the Department will ensure there is justification to do so.

We will continue this process as we move forward with the vendor between maintenance and full years.

The Department is currently in the middle of its analysis with the new vendor, therefore the first possible date of implementation will be during the next full total compensation report analysis in 2023.

g. Agree. Implementation Date: September 2023.

To determine and maintain salaries that are comparable to public and private employment, the Department must also review appropriate private salary data. The Department's relevant labor market should include private entities as this is where the State is competing for talent. That being said, we should ensure, as noted in the recommendations above, that the private data is relevant before relying on it to make recommendations. The Department will work to be more inclusive of public sector data.

Due to the large variances in market data from years when a full study is completed with the custom survey, to the years when a maintenance study is completed without a custom survey, the Department has decided in conjunction with the vendor to not do a custom survey for the full year. The survey participants varied from year to year resulting in large variances.

With the vendor, the Department has determined a set list of public and private providers that are representative of the State's defined labor market for benefits valuation. The intent is that moving forward, we will use data from these set sources to assist in consistency from year to year. In the future, if a custom survey is conducted, this list, and any relevant others, would be used to prioritize and provide more balance with public sector data.

For this full year, a custom survey would have already had to go out, prior to the date of the release of these audit findings. The first possible date of implementation will be during the next full total compensation report analysis in 2023, if a custom survey is conducted.

h. Agree. Implementation Date: September 2023.

The Department, as part of the project onboarding, discussed the previous methodology with the current vendor and will look at making changes to this calculation moving forward.

As mentioned above, due to the large variances in market data from years when a full study is completed with the custom survey, to the years when a maintenance study is completed without a custom survey, the Department has decided in conjunction with the vendor to not do a custom survey for the full year.

For this full year, a custom survey would have already had to go out, prior to the date of the release of these audit findings. The first possible date of implementation will be during the next full total compensation report analysis in 2023. If a custom survey is done in future cycles, the survey could specifically target incentive pay of public sector employers.

Consider an Alternative Approach

State statute requires the Department to determine and maintain salaries, state contributions for group benefit plans, and merit pay that are comparable to public and private employment by *annually* reviewing the results of appropriate surveys by public or private organizations, including custom surveys [Section 24-50-104(1)(a)(II), C.R.S.]. The Department satisfies its statutory obligation to annually assess prevailing total compensation practices, levels, and costs by alternating every other year between hiring a compensation consultant to conduct a full year compensation study and relying on in-house resources to perform a smaller scale maintenance year study. This full year—maintenance year approach was put in place for the Fiscal Year 2017 compensation study. Currently, the Department and its contractor are in the process of conducting the Fiscal Year 2023 full year compensation study; the results will be reported to the Governor and the Joint Budget Committee by September 15, 2021. Prior to the Fiscal Year 2017 compensation study, the Department's practice was to conduct a comprehensive compensation study of all or most job classifications within the state personnel system every year using in-house staff resources. For the 5-year period from Fiscal Year 2017 through Fiscal Year 2022, the Department has been appropriated $900,000 in general funds to conduct the compensation studies.

Overall, the Department's full year—maintenance year approach is not materially broken nor does it need replacing. However, based on our evaluation, we determined that this approach may be unnecessarily excessive; that is, the scope of the Department's current annual efforts may not be necessary.

Compensation studies are generally designed to assess prevailing compensation practices, levels, and costs in the labor market, but they differ in terms of their overall frequency, scope, and the resources required to perform them. We note that among other western region states (Arizona, New Mexico, Nevada, Utah, and Wyoming), the process of conducting an annual compensation study is common. However, the scope, level, and detail, and overall level of effort in the analysis appears to vary.

Because of the level of effort required to conduct a full compensation study, industry best practices recommend only conducting them every 3 to 5 years and, in the intervening years, monitoring and adjusting for market trends based on other data sources and indicators. For example, using a 4-year cycle, a comprehensive compensation study could be performed in Year 1 to establish the market position using salary and benefit information from published and custom surveys for a representative cross-section of benchmark jobs. This is similar to what the Department's full year study currently provides. However, instead of updating the compensation survey data for benchmark jobs in Years 2 through 4, market movement would be monitored and adjusted for based on other market data sources, indicators, and inflationary measures. The cycle then repeats with a new comprehensive compensation study providing the new market position baseline.

WorldatWork conducts and publishes a variety of salary budget surveys that assess the prevailing trends with regards to planned salary increases that organizations are considering.

An example of top-level data from the most recent WorldatWork Salary Budget Survey is shown in Table 9.

Table 9. WorldatWork Salary Budget Survey Data (2020-2021)
Salary Budget Increases by Employee Category

Employee Category	Actual 2020		Projected 2021	
	Mean	Median	Mean	Median
Non-Exempt Hourly Non-Union	2.8%	3.0%	2.9%	3.0%
Non-Exempt Salaried	2.9%	3.0%	2.9%	3.0%
Exempt Salaried	2.9%	3.0%	2.9%	3.0%
Officers/Executives	2.9%	3.1%	2.9%	3.0%
Source: WorldatWork.				

Additionally, many statistics and indexes are readily available through the U.S. Bureau of Labor Statistics (BLS), such as the Employer Costs for Employee Compensation (ECEC), which provides considerable data on the average employer cost for wages and salaries as well as benefits per employee hour worked. The ECEC includes data from both private industry and state and local government.

Despite having relied on an annual analysis of compensation survey data in its full year and maintenance year studies, Table 10 shows that the Department's recommended annual adjustments, especially for salary ranges, have been fairly stable since Fiscal Year 2017. An alternative approach should be able to substantiate and support similar annual adjustments based on market indicators without requiring the resources to update compensation survey data and benchmark job analysis in the intervening years between comprehensive compensation studies.

Table 10. Recommended Adjustments to Total Compensation Common Policies, Fiscal Years 2018 through 2022

Fiscal Year	Salary Range Adjustment All Occupational Groups[1]	Statewide Pay-Rate Adjustment All Occupational Groups[2]
2022	2%[1]	2.05%[3]
2021	2%	2%
2020	2%	0%
2019	2%	3%
2018	2.2%	2.5%
2017	2%	0%

Source: Department of Personnel & Administration, Statewide Common Policy Budget Request Documents.

[1] Salary range adjustments adjust both the minimum and maximum of the salary range for the job classifications.

[2] Statewide pay-rate adjustments adjust employees' actual salaries or rate of pay.

[3] At the time the November 1 statewide common policy budget request for Fiscal Year 2022 was submitted, the Department did not request any salary range adjustments or statewide pay-rate adjustments because the most recent economic forecast did not project a sufficient amount of revenue. The December 2020 revenue forecast came in higher than the previous forecast, which allowed the Department to modify its Fiscal Year 2022 statewide common policy budget request to include both a salary range adjustment and a statewide pay-rate adjustment for all occupational groups.

We recognize that the compensation study process we describe is a departure from the Department's full year—maintenance year approach in which published and custom survey data for benchmark jobs are obtained and updated annually. It is important that a comprehensive compensation study be performed periodically to establish a baseline for the prevailing labor market. However, in our industry experience, once the market position is established, it is more common for employers to conduct smaller, more targeted compensation analyses of occupational groups that are facing challenges (e.g., recruitment, retention, etc.) in intervening years between large, full-scale studies.

There are also a number of potential benefits from moving away from the Department's full year—maintenance year approach. In addition to reducing the resource burden, conducting a comprehensive study every 3 to 5 years could lessen or eliminate a number of the issues discussed in Recommendation 1. For example, any artificial "movement" in the State's total compensation value relative to the prevailing market created by alternating years' studies would be eliminated, resulting in more stability in measurements of market movement over time. Significant changes in reported compensation levels in the aggregate and for individual benchmark positions between full and maintenance years would be mitigated by using consistent benchmarks in the comprehensive compensation studies. Lengthening the time horizon between comprehensive compensation studies would also better accommodate the timing of the published salary survey data, thereby alleviating the issue of aging data more than 24 months. Finally, conducting a comprehensive compensation study every 3 to 5 years would free up Department resources to focus on other related priorities, such as conducting system maintenance studies and updating job classifications that will ultimately improve the Department's ability to accurately match benchmark jobs with the market when the comprehensive compensation study occurs.

We have outlined in a general sense one scenario to help illustrate that there are alternatives to how the State currently approaches its annual compensation study. However, before making any large-scale changes to the process, the Department would need to consider and assess alternatives at a more detailed level to determine what is viable. Statutory changes would likely be required, since statute currently requires annual review of compensation survey data. Additionally, because the Department's compensation study and related recommendations for adjustments feed into the State's annual budget cycle, the Department would need to ensure that the Joint Budget Committee and other stakeholders are consulted in the process of considering viable alternatives. As a means of obtaining detailed information and ideas, the Department could use a Request for Information (RFI) process to leverage the human resources and compensation consultant community about how to design an alternative compensation study process, especially one that must be implemented for a large employer with a complex employee base such as the State.

The potential benefits of what an alternative approach to the annual compensation study process could provide both in terms of increased efficiencies and cost-effectiveness are worthy of further consideration. As the state agency charged with administering the state personnel system and making recommendations on compensation adjustments, the Department is in the best position to provide policy guidance and direction to the Governor and the General Assembly on viable alternatives.

Recommendation No. 2:

The Department of Personnel & Administration should consider and assess alternatives to its full year—maintenance year approach to the annual compensation study and submit a report to the Legislative Audit Committee and the Joint Budget Committee on any recommended changes, including any necessary statutory changes, by December 31, 2021.

Department of Personnel & Administration Response:

Agree. Implementation Date: December 2021.

The Department will assess and report to the Legislative Audit Committee and Joint Budget Committee on alternatives to the current full year and maintenance year approach as detailed in the written report.

The Department will also survey our peer network of National Compensation Association of State Governments to gauge how other state governments handle this.