State of California Retiree Health Benefits Program

2018 Experience Review for the Years July 1, 2014, to June 30, 2018

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August 28, 2020

The Honorable Betty Yee
California State Controller
300 Capitol Mall, Suite 1850
Sacramento, California 95812

Re: State of California Retiree Health Benefits Program Experience Study

Dear Controller Yee:

At the request of the California State Controller's Office (SCO), Gabriel, Roeder, Smith & Company (GRS) has performed a review of the healthcare related actuarial assumptions and methods used to value the liabilities associated with the retiree healthcare benefits provided to statewide employees through the programs sponsored by the State of California as administered by the California Public Employees Retirement System (CalPERS) and the California Department of Human Resources (CalHR). The primary purpose of the study is to determine the continued appropriateness of the current healthcare related actuarial assumptions by comparing actual experience to expected experience. Our study was based on census and healthcare claims experience used for the annual actuarial valuations from June 30, 2014, to June 30, 2018. The updated actuarial assumptions and methods recommended by this study will first be used for the GASB Statements No. 74 and 75 (GASB Nos. 74 and 75) actuarial valuations and full funding actuarial valuations as of June 30, 2019.

Our study includes a review of the experience associated with the following actuarial assumptions:

- Full-Funding discount rate;
- Health cost and premium increases;
- Impact of the excise tax;
- Participation percentage;
- Percent of disabilities treated as post-Medicare;
- Coverage and continuance assumptions;
- Aging factors;
- Aged per capita claim cost based on updated aging factors – medical and prescription;
- Adjustments for disabled members;
- Adjustments for children of current retirees and survivors;
- Per capita claim cost – dental;
- Medicare Part B premiums;
- Employer Group Waiver Plan (EGWP) assumptions; and
- Data processing assumptions.

Our study includes a review of the following methods:

- Actuarial cost method;
- Asset smoothing method; and
- Amortization period.

Section I contains a summary of the actuarial assumptions and methods review. The results of this analysis are set forth in Section II of this report. Section III contains the cost impact as a result of the assumption modifications.

The results of the experience study and recommended healthcare related assumptions set forth in this report are based on the data and actuarial techniques and methods described above. This healthcare related assumption review is based on data provided by the SCO, CalPERS and CalHR for the annual actuarial valuations. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Based on these items, we certify these results to be true and correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

This report should not be relied on for any purpose other than the purpose stated.

Alex Rivera and James E. Pranschke are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. The signing actuaries are independent of the plan sponsor.

Respectfully submitted,

Gabriel, Roeder, Smith & Company

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GRS

Table of Contents

SECTION I

EXPERIENCE REVIEW SUMMARY

Experience Review Summary

Background

The actuarial valuation process for an Other Postemployment Benefits (OPEB) program includes:

- **Pension-related assumptions** used to determine the likelihood that a member who satisfies OPEB eligibility requirements will retire in the future;
- **OPEB-related assumptions** used to: (i) determine the likelihood that a member will elect healthcare coverage at retirement and (ii) project the member's healthcare benefit after retirement;
- **Pension-related and OPEB-related assumptions** used to determine the likelihood that the member will continue to receive healthcare benefits after retirement;
- **Economic assumptions** used to determine the present value of projected healthcare benefits at the valuation date;
- **Cost method** used to allocate costs during the member's active working period;
- **Funding policy** used to determine the level of pay-as-you-go funding contributions and pre-funding contributions;
- **Investment policy and capital market assumptions** used to evaluate the expected long-term return on assets if the program is pre-funded through a dedicated trust;
- **Plan provisions** which define the level of healthcare benefits provided to the retiree net of the retiree's share of premium; and
- **Census data** as of the actuarial valuation date.

Actuarial valuation assumptions and methods along with plan provisions and census data are used to determine expected future benefit payments, actuarial liabilities and normal costs. If the sponsor has adopted an actuarially based pre-funding policy, the actuarial valuation results may also be used to determine actuarially determined contributions.

The Actuarial Standards Board (ASB) provides guidance on measuring the costs of financing a retirement program through the following Actuarial Standards of Practices (ASOP):

- ASOP No. 6, Measuring Retiree Group Benefits Obligations and Determining Retiree Group Benefits Program Periodic Costs or Actuarially Determined Contributions;
- ASOP No. 27, Selection of Economic Assumptions for Measuring Pension Obligations; and
- ASOP No. 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations.

The recommendations provided in this report are consistent with the preceding Actuarial Standards of Practice.

Experience Review Summary

Basis of Actuarial Valuation as of June 30, 2018

The actuarial valuation as of June 30, 2018, for the State of California Retiree Healthcare Benefits Program, reflected the following:

- Census data as of June 30, 2018;
- Plan provisions in effect as of June 30, 2018;
- Pension-related assumptions that were used for the 2018 actuarial valuations of the CalPERS statewide pension programs, which were based on the December 2017 Experience Study conducted by CalPERS;
- OPEB-related assumptions and methods from the June 30, 2014, experience study, including participation assumptions, coverage and continuance assumptions, per capita costs aging factors, and other assumptions relating to disabled members;
- Annual updates to certain OPEB-related assumptions including: per capita claim costs and EGWP costs adjustments, using information provided by the SCO, CalPERS and CalHR, and healthcare trend rates;
- Pre-funding policy in effect as of June 30, 2018, based on legislation in GOV 22940, which for certain employee groups provides for the pre-funding of future normal costs;
- CERBT Investment Policy 1 in effect as of June 30, 2018; and
- GASB Nos. 74 and 75 blended discount rate at June 30, 2018, determined separately for 25 actuarial valuation groups, which generally depends on a projection of actuarial liabilities, assets and the year that pre-funding assets are available to pay benefits.

Please refer to the full actuarial valuation report as of June 30, 2018, for additional details on census, plan provision, funding policy, assumptions, and methods used in the most recent actuarial valuations.

Experience Review Summary

Review of Experience and Assumptions and Key Recommendation

Generally accepted actuarial principles require the periodic review of emerging experience against actuarial valuation assumptions in order to recommend updates to the actuarial valuation assumptions.

The report contains an experience review for the period from July 1, 2014, to June 30, 2018, of the OPEB-related actuarial assumptions used for the actuarial valuations of the State of California Retiree Healthcare Benefits program. Updates to pension-related assumptions are performed by CalPERS and will be included in the OPEB actuarial valuation after CalPERS releases their experience study report. The most recent experience study conducted by CalPERS was released on December of 2017.

The recommend actuarial assumptions will be used for the full-funding actuarial valuations and the GASB Nos. 74 and 75 actuarial valuations, effective as of June 30, 2019.

Following is a summary of our key findings and recommendations:

- **Full funding discount rate –** We recommend decreasing the full-funding discount rate from 7.00 percent to 6.75 percent. We recommend that full-funding policy discount rates be reviewed each year in relation to the rate expected to be earned under Strategy 1 as disclosed by CERBT.
- **General inflation and wage inflation –** We recommend decreasing the price inflation assumption from 2.50 percent to 2.25 percent. We recommend decreasing the wage inflation assumption from 2.75 percent to 2.50 percent.
- **Health cost and premium increases –** We continue to recommend the use of a select and ultimate trend assumption and the use of the most recent premium information available at the time of the valuation.
- **Impact of the excise tax –** We recommend increasing the excise tax trend adjustment from 0.14 percent to 0.18 percent.
- **Participation election percentage –** We recommend updating these assumptions based on the experience of the plan.
- **Percentage of disabled members eligible for Medicare benefits –** We recommend updating this assumption based on the experience of the plan.
- **Coverage and continuance assumptions –** We recommend maintaining the current assumption.
- **Aging factors –** We recommend updating these factors based on more recent gross claims data.
- **Aged per capita claim cost based on updated aging factors – medical and prescription –** We recommend updating the per capita claims costs based on the recommended aging factors.
- **Adjustments for disabled members –** We recommend slightly lowering the load applied to the expected claims for disabled members.
- **Adjustments for children of current retirees and survivors –** We recommend updating the load applied to the expected claims to account for children of current retirees and survivors.
- **Per capita claim cost – dental –** We recommend maintaining the current assumption.

Experience Review Summary

- **Medicare Part B premiums –** We recommend maintaining the current assumption.
- **Employer Group Waiver Plan –** We recommend decreasing the EGWP trend adjustment factors applied to Medicare claims.
- **Data processing assumptions –** We recommend reviewing the data each year to determine whether or not certain assumptions need to be made and whether or not those assumptions will have a material impact on the valuation.

The change in OPEB-related actuarial assumption, using the full-funding discount rate assumption, is expected to impact the key results of the actuarial valuation as of June 30, 2018, as follows:

IMPACT OF CHANGE IN ASSUMPTIONS
FULL-FUNDING ACTUARIAL VALUATION AT JULY 1, 2018 ($ IN 000'S)
TOTAL OF ALL ACTUARIAL VALUATION GROUPS

	Actuarial Accrued Liability		Net Employer ADC for FYE June 30, 2019		Employer PAYGO Costs for FYE June 30, 2019	
Current Assumptions	$ 56,123,158		$ 4,432,081		$ 2,274,061	
Impact due to:						
• Change in Interest Rate	2,074,458	3.7%	207,304	4.7%	-	0.0%
• Change in Participation, Coverage, Continuance, and Contract Mix	(333,129)	-0.6%	(55,769)	-1.3%	(736)	0.0%
• Change in Aging, Disability Load, Children Load, and Percent of Future Disabled Members Eligible for Medicare and Part B Premiums	768,685	1.4%	46,017	1.0%	47,310	2.1%
• Change in EGWP related trend assumption	(1,001,084)	-1.8%	(78,676)	-1.8%	(3,569)	-0.2%
• Change in all other Assumptions including Excise Tax, and Data Processing	95,742	0.2%	11,387	0.3%	-	0.0%
Total Impact	1,604,672	2.9%	130,263	2.9%	43,005	1.9%
After Recommended Changes	$ 57,727,830		$ 4,562,344		$ 2,317,066	

Changing the interest rate assumption from 7.00 percent to 6.75 percent had the greatest impact on costs and increased actuarial liabilities by approximately 3.7 percent. The change in the interest rate assumption was primarily driven by the 25 basis points reduction in price inflation.

The majority of the decrease in OPEB-related assumptions, about a 1.8 percent reduction in liabilities, was attributable to the EGWP related trend adjustment. That is, in our actuarial valuations we have assumed a slightly higher trend rate assumption for Medicare coverage when compared to non-Medicare coverage. The higher trend rate assumes a portion of initial EGWP savings are expected to decline relative to overall Medicare cost. Experience indicated a slower rate of decline in EGWP savings and we have decreased the EGWP trend adjustments. We will continue to monitor EGWP related experience during the annual valuation process and will adjust the EGWP related trend increment.

Experience Review Summary

The change in aging factors, disability adjustments, and children liability loads increased liabilities by approximately 1.4 percent. The majority of the change was due to the updated aging factors which decreased age adjusted costs for males but increased age adjusted costs for females.

The change in participation, coverage, and continuance decreased liabilities by about 0.6 percent. The majority of the decrease was due to decrease in participation rates for members who are receiving a State subsidy less than 50 percent of the premium and active members who waive healthcare coverage.

GASB Nos. 74 and 75 require the use of the Entry Age Normal cost method. We recommend using the same cost method for: financial reporting under GASB Nos. 74 and 75 and developing the pre-funding normal cost under GOV 22940. Since statutory pre-funding contributions explicitly pre-fund normal costs but do not explicitly pre-fund the unfunded actuarial liability, we recommend using the market value of assets for: disclosing the unfunded actuarial liability and developing the Actuarially Determined Contributions (ADC). Finally, we recommend developing the ADC using a 30-year closed amortization period, effective as of July 1, 2017, as a level percent of pay. The preceding methods are the same methods used for the actuarial valuation as of June 30, 2018.

Section II contains details on recommended assumption changes due to the Experience Study review.

Section III contains more details on the cost impact of recommended assumption changes.

SECTION II

EXPERIENCE ANALYSIS RESULTS

Inflation Assumption

By "inflation," we mean price inflation, as measured by annual increases in the Consumer Price Index (CPI). This inflation assumption underlies most of the other economic assumptions. It has an impact on investment return, salary increases, and overall payroll growth. The current annual inflation assumption is 2.50 percent.

Over the three-year period from June 2016 through June 2019, the CPI-U has increased at an average annual rate of 2.05 percent. **However, the assumed inflation rate is only weakly tied to past results.**

The following table shows the average inflation over various periods, ending June 2019.

Fiscal Year	Annual Increase in CPI-U
2014-15	0.12%
2015-16	1.00%
2016-17	1.63%
2017-18	2.87%
2018-19	1.65%
3-Year Average	2.05%
5-Year Average	1.45%
10-Year Average	1.73%
20-Year Average	2.19%
25-Year Average	2.22%
30-Year Average	2.44%
40-Year Average	3.21%
50-Year Average	3.97%

Future Inflation Expectations

Since price inflation is relatively volatile and is subject to a number of influences not based on recent history, economic assumptions are less reliably based on recent past experience than are the demographic assumptions. Therefore, it is important not to give undue weight to recent experience. We must also consider future expectations as well.

One source of information about future inflation is the market for US Treasury bonds. The difference in yield between non-indexed and indexed treasury bonds is generally a reasonable estimate of what the bond market expects on a forward looking basis for inflation. As of June 30, 2019, the difference for 20-year bonds implies that inflation over the next 20 years would average 1.89 percent. The difference in yield for 30-year bonds implies 2.05 percent inflation over the next 30 years.

The following tables present a summary of inflation rate forecasts.

Experience Analysis Results

Forward-Looking Price Inflation Forecasts[a]	
Congressional Budget Office[b]	
5-Year Annual Average	2.46%
10-Year Annual Average	2.38%
Federal Reserve Bank of Philadelphia[c]	
5-Year Annual Average	2.10%
10-Year Annual Average	2.20%
Federal Reserve Bank of Cleveland[d]	
10-Year Expectation	1.68%
20-Year Expectation	1.89%
30-Year Expectation	2.05%
Federal Reserve Bank of St. Louis[e]	
10-Year Breakeven Inflation	1.74%
20-Year Breakeven Inflation	1.77%
30-Year Breakeven Inflation	1.78%
U.S. Department of the Treasury[f]	
10-Year Breakeven Inflation	1.70%
20-Year Breakeven Inflation	1.74%
30-Year Breakeven Inflation	1.90%
50-Year Breakeven Inflation	1.94%
100-Year Breakeven Inflation	1.97%
Social Security Trustees[g]	
Ultimate Intermediate Assumption	2.60%

[a]*Version 2019-09-30 by Gabriel, Roeder, Smith & Company.*
[b]*The Budget and Economic Outlook: 2019 to 2029, Release Date: January 2019, Consumer Price Index (CPI-U), Percentage Change from Fourth Quarter to Fourth Quarter, 5-Year Annual Average (2019 - 2023), 10-Year Annual Average (2019 - 2028).*
[c]*Third Quarter 2019 Survey of Professional Forecasters, Release Date: August 9, 2019, Headline CPI, 5-Year Annual Average (2019 - 2023), 10-Year Annual Average (2019 - 2028).*
[d]*Inflation Expectations, Model output date: September 1, 2019.*
[e]*The breakeven inflation rate represents a measure of expected inflation derived from X-Year Treasury Constant Maturity Securities and X-Year Treasury Inflation-Indexed Constant Maturity Securities. Observation date: September 2019.*
[f]*The Treasury Breakeven Inflation (TBI) Curve, Monthly Average Rates, September 2019.*
[g]*The 2019 Annual Report of The Board of Trustees of The Federal Old-Age And Survivors Insurance and Federal Disability Insurance Trust Funds, April 25, 2019, Long-range (75-year) assumptions, Intermediate, Consumer Price Index (CPI-W), for 2021 and later.*

However, this analysis is known to be imperfect as it ignores the inflation risk premium that buyers of US Treasury bonds often demand as well as possible differences in liquidity between US Treasury bonds and Treasury Inflation Protected Securities (TIPS).

Another point of reference is the Social Security Administration's (SSA) 2019 Trustees Report, in which the Office of the Chief Actuary is projecting a long-term average ultimate annual inflation rate of 2.60 percent under the intermediate cost assumption. The ultimate inflation assumption is 2.00 percent and 3.20 percent respectively in the low cost and high cost projection scenarios. The Social Security Trustees report uses the ultimate rates for their 75-year projections, much longer than the longest horizon we can discern from Treasuries and TIPS.

We also surveyed the inflation assumption used by various investment consulting firms. In our sample of these firms, the inflation assumption ranged from 1.70 percent to 2.50 percent, with an average of 2.20 percent in the short-term (10 years or less) and 2.42 percent in the long-term (20 to 30 years).

Recommendation

Based on this information, our opinion is that it would be reasonable to lower the current price inflation assumption of 2.50 percent. However, we caution against lowering the price inflation assumption too low (i.e., below 2.00 percent). We recommend reducing the inflation assumption from 2.50 percent to 2.25 percent. This reduction recognizes lower inflation expectations in both the near and longer term. The change will bring it closer to recent inflation levels and closer to levels expected in the financial markets. This change also affects all other economic assumptions.

Full Funding Discount Rate and Investment Return Assumption

The State and employees in all bargaining units, except for CSU employees, and Judicial employees have agreed to pre-fund retiree healthcare benefits. The State and all active members make contributions into separate accounts for each respective bargaining unit and Judicial employee group. Contributions are based on a percentage of pensionable compensation with the ultimate goal of contributing 100 percent of the actuarially determined normal cost shared equally between the State and employees. Pre-funding contributions and investment income are not available to pay plan benefits until the earlier of 2046 or the year that actuarial accrued liabilities are fully funded.

Plan assets are currently held in the California Employers' Retiree Benefit Trust (CERBT) and the State has adopted investment Strategy 1. Based on information provided on CalPERS' website, the CERBT Strategy 1 investment portfolio is expected to earn approximately 7.00 percent per year over the long term.

As of June 30, 2018, total assets in the CERBT accounts, for 12 bargaining units and Judicial employees, are approximately $874 million.

The sponsor also makes pay-as-you-go contributions for benefits paid to current retirees and the portion of benefits paid to future retirees that are not pre-funded.

The investment return assumption is one of the principal assumptions used in any actuarial valuation of a retirement plan. It is used to discount future expected benefit payments to the actuarial valuation date in order to determine actuarial liabilities and normal costs of the plan. Currently, the investment return assumption is 7.0 percent, inflation assumption is 2.5 percent, and the real investment return assumption is 4.5 percent.

The long-term rate of return used for the full-funding actuarial valuation depends on the California Employers' Retiree Benefit Trust (CERBT) Fund investment policy recommendation and capital market assumptions. The full-funding actuarial valuation is used to:

1. Determine the year that actuarial liabilities, for each respective valuation group, are projected to be fully funded, and
2. Determine the full-funding normal cost for each respective valuation group.

GRS performed a review to support the investment return assumption used in the full-funding actuarial valuation. This review relied on:

1. Information contained in CalPERS website relating to the CERBT Investment Strategy 1;
2. Investment Policy Information Based on 2018 Capital Market Assumptions Presentation produced by CalPERS Investment Office; and
3. Capital Market Assumptions provided by CalPERS Actuarial Office.

Using the preceding information, GRS performed an independent review to support the 7.0 percent long-term pre-funding investment return assumption used for the actuarial valuation as of June 30, 2018. However, this analysis was based on an inflation assumption of 2.5 percent and a real return of 4.5 percent.

Real Return

The allocation of assets within the universe of investment options will have a significant impact on the overall performance. Therefore, it is meaningful to identify the range of expected returns based on the fund's targeted allocation of investments and an overall set of capital market assumptions.

The following table provides the recommended CERBT 1 target asset allocation as provided in the CERBT Strategy 1 Fund Facts Sheet dated August 31, 2019.

Asset Class	Current Target
Global Equity	59.00%
Fixed Income	25.00%
Treasury Inflation Protected Securities (TIPS)	5.00%
Real Estate Investment Trusts (REITs)	8.00%
Commodities	3.00%
Total	**100.00%**

We applied the CERBT target asset allocation, and performed an analysis using capital market assumptions from a sample of thirteen nationally known investment consulting firms. Three of the investment consulting firms provided capital market expectations for longer time horizons (20 to 30 years). Thirteen firms provided capital market expectations for shorter time horizons (10 years or less).

These investment consulting firms periodically issue reports that describe their capital market assumptions; that is, their estimates of expected returns, volatility and correlations among the different asset classes. While some of these assumptions may be based upon historical analysis, many of these firms also incorporate forward-looking adjustments to better reflect near-term and long-term expectations. The estimates for core investments (i.e., fixed income, equities, and real estate) are generally based on anticipated returns produced by passive index funds.

The current nominal investment return assumption of 7.00 percent is based on an inflation assumption of 2.50 percent and a real return of 4.50 percent. Since the recommended inflation assumption has been reduced from 2.50 percent to 2.25 percent, we recommend evaluating the impact of reducing the return assumption to 6.75 percent in order to maintain a real return of 4.50 percent.

Given the CERBT's current target asset allocation and the capital market assumptions from a sample of representative investment consultants, the development of the average nominal return, net of investment expenses, is provided in the following table.

Experience Analysis Results

Investment Consultant	Investment Consultant Expected One Year Nominal Return	Investment Consultant Inflation Assumption	Expected Real Return (2)–(3)	Actuary Inflation Assumption	Expected Nominal Return (4)+(5)	Standard Deviation of Expected Return (1-Year)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	5.83%	2.50%	3.33%	2.25%	5.58%	11.54%
2	6.41%	2.50%	3.91%	2.25%	6.16%	12.15%
3	6.17%	2.20%	3.97%	2.25%	6.22%	9.59%
4	6.69%	2.25%	4.44%	2.25%	6.69%	11.76%
5	6.37%	2.00%	4.37%	2.25%	6.62%	10.91%
6	6.75%	2.21%	4.54%	2.25%	6.79%	12.39%
7	6.56%	2.00%	4.56%	2.25%	6.81%	12.34%
8	7.16%	2.26%	4.90%	2.25%	7.15%	12.84%
9	6.97%	2.30%	4.67%	2.25%	6.92%	10.47%
10	7.23%	2.31%	4.93%	2.25%	7.18%	12.66%
11	7.55%	2.15%	5.40%	2.25%	7.65%	12.54%
12	7.06%	1.70%	5.36%	2.25%	7.61%	11.71%
13	7.61%	2.00%	5.61%	2.25%	7.86%	11.52%
Average	**6.80%**	**2.18%**	**4.61%**	**2.25%**	**6.86%**	**11.72%**

Average real rate of return is 4.61% net of investment expenses.

Based on arithmetic average.

Based on each investment consulting firm's assumptions, we estimated the expected real return of the System's portfolio (col. (4)). Next, based on the actuary's recommended inflation, we estimated the expected one-year arithmetic return net of expenses (col. (6)). The average one-year arithmetic return is 6.86 percent.

However, in addition to examining the expected one-year arithmetic return, it is important to review anticipated volatility of the investment portfolio in order to understand the range of long-term net returns that could be expected to be produced by the investment portfolio.

The following table provides the 40th, 50th, and 60th percentiles of the geometric average (10-year investment horizon) of the expected nominal return, net of expenses based on the recommended inflation assumption of 2.25 percent. The tables also show the probability of exceeding the current 7.00 percent assumption and alternative lower assumption of 6.75 percent.

Investment Consultant	Distribution of 10-Year Average Geometric Net Nominal Return 40th	50th	60th	Probability of Exceeding 7.00%	Probability of Exceeding 6.75%
(1)	(2)	(3)	(4)	(5)	(6)
1	4.04%	4.95%	5.87%	28.74%	31.10%
2	4.51%	5.47%	6.44%	34.52%	36.94%
3	5.03%	5.79%	6.55%	34.45%	37.52%
4	5.12%	6.05%	6.98%	39.83%	42.45%
5	5.21%	6.07%	6.94%	39.34%	42.15%
6	5.10%	6.08%	7.06%	40.63%	43.13%
7	5.13%	6.10%	7.08%	40.82%	43.34%
8	5.37%	6.39%	7.41%	43.96%	46.41%
9	5.58%	6.41%	7.25%	42.93%	45.92%
10	5.44%	6.44%	7.45%	44.39%	46.88%
11	5.94%	6.93%	7.93%	49.25%	51.79%
12	6.05%	6.98%	7.91%	49.76%	52.48%
13	6.34%	7.25%	8.17%	52.74%	55.49%
Average	**5.30%**	**6.22%**	**7.16%**	**41.64%**	**44.28%**

The 10-year geometric median return is 6.22%.

Based on the preceding analysis there is a 44.28 percent likelihood that plan assets will earn on average at least 6.75 percent per year over the next 10 years. However, there is only a 41.64 percent likelihood that assets will earn at least 7.00 percent over the same period.

GRS also performed a supplemental review of the long-term rate of return assumption of 7.00 percent used for the full-funding OPEB actuarial valuation as of June 30, 2018. This review was provided in our letter dated December 19, 2019, and was based on the following information:

- Investment Policy Information Based on 2018 Capital Market Assumptions Presentation produced by CalPERS Investment Office; and
- Capital Market Assumptions provided by CalPERS Actuarial Office.

The review supported the long-term investment return assumption of 7.00 percent, which was based on an inflation assumption of 2.50 percent.

The key highlights of supplemental review are reproduced below.

Projected Returns

The following table shows the recommended CERBT 1 target asset allocation and the capital market assumptions, as provided by CalPERS Investment Office and CalPERS Actuarial Office, which includes a 15 basis point reduction for investment administration fees.

Experience Analysis Results

Asset Class	Current Target CERBT 1	Geometric Returns Year 1 - 10	Geometric Returns Year 11 - 40	Volatility
Global Equity	59.00%	6.80%	8.90%	17.00%
Fixed Income	25.00%	3.10%	5.54%	7.83%
Real Estate Investment Trusts (REITs)	8.00%	5.50%	7.92%	17.28%
Treasury Inflation Protected Securities (TIPS)	5.00%	2.25%	4.38%	5.46%
Commodities	3.00%	3.50%	5.79%	21.50%
Total	**100.00%**			
Inflation		**2.00%**	**2.92%**	

We applied the CERBT 1 target asset allocation and CalPERS capital market assumptions to our asset return projection model, and generated the following results for the aggregate portfolio:

	Geometric Returns Year 1 - 10	Geometric Returns Year 11 - 40	Weighted Returns
Expected Geometric Return	5.77%	7.93%	6.90%
Volatility	11.77%	11.77%	11.77%
60th Percentile Return	6.64%	8.45%	7.59%
50th Percentile Return	5.71%	7.91%	6.85%
40th Percentile Return	4.77%	7.37%	6.13%
Inflation	**2.00%**	**2.92%**	

The weighted returns are based on the expected benefit payments on a closed-group basis, as shown in the exhibit on the following page.

Based on CERBT 1 target asset allocation, CalPERS capital market assumption, and our asset return projection model, the likelihood that plan assets will earn at least 7.00 percent in the long-term, with a long-term inflation assumption of 2.50 percent, is approximately 48 percent.

Please note that the recommended inflation assumption has been reduced from 2.50 percent to 2.25 percent. Consequently, the likelihood that plan assets will earn 6.75 percent in the long-term is approximately 48 percent.

Experience Analysis Results

TOTAL PROJECTED BENEFITS FOR 25 BU GROUPS
DEVELOPMENT OF WEIGHTED INVESTMENT RETURN

Expected Compound Return Years 1 through 10	**5.770%**
Expected Compound Return Years 11 and greater	**7.930%**
Weighted Investment Return	**6.895%**

Present Value of Benefits				**$ 68,331,028,745**				**$ 68,331,028,745**
FYE	Total Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment		Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2019	$ 2,274,060,465	5.770%	0.94545	$ 2,150,005,167		6.895%	0.93550	$ 2,127,376,657
2020	$ 2,466,295,166	5.770%	0.89387	$ 2,204,550,455		6.895%	0.87515	$ 2,158,389,476
2021	$ 2,717,500,311	5.770%	0.84511	$ 2,296,582,702		6.895%	0.81870	$ 2,224,829,566
2022	$ 2,971,470,123	5.770%	0.79901	$ 2,374,222,140		6.895%	0.76590	$ 2,275,835,641
2023	$ 3,226,412,109	5.770%	0.75542	$ 2,437,290,621		6.895%	0.71649	$ 2,311,701,459
2024	$ 3,481,695,560	5.770%	0.71421	$ 2,486,656,330		6.895%	0.67028	$ 2,333,700,307
2025	$ 3,728,364,110	5.770%	0.67525	$ 2,517,565,556		6.895%	0.62704	$ 2,337,841,103
2026	$ 3,960,970,131	5.770%	0.63841	$ 2,528,724,595		6.895%	0.58660	$ 2,323,488,998
2027	$ 4,177,971,561	5.770%	0.60358	$ 2,521,755,288		6.895%	0.54876	$ 2,292,698,327
2028	$ 4,391,697,816	5.770%	0.57066	$ 2,506,151,990		6.895%	0.51336	$ 2,254,531,283
2029	$ 4,609,580,001	7.930%	0.52873	$ 2,437,216,648		6.895%	0.48025	$ 2,213,744,802
2030	$ 4,828,802,374	7.930%	0.48988	$ 2,365,538,572		6.895%	0.44927	$ 2,169,441,837
2031	$ 5,050,700,629	7.930%	0.45389	$ 2,292,450,952		6.895%	0.42029	$ 2,122,768,275
2032	$ 5,275,437,975	7.930%	0.42054	$ 2,218,527,260		6.895%	0.39318	$ 2,074,205,894
2033	$ 5,500,272,445	7.930%	0.38964	$ 2,143,128,803		6.895%	0.36782	$ 2,023,112,001
2034	$ 5,724,733,113	7.930%	0.36101	$ 2,066,698,569		6.895%	0.34409	$ 1,969,850,879
2035	$ 5,944,729,616	7.930%	0.33449	$ 1,988,436,944		6.895%	0.32190	$ 1,913,606,308
2036	$ 6,160,423,904	7.930%	0.30991	$ 1,909,185,544		6.895%	0.30114	$ 1,855,126,232
2037	$ 6,371,348,144	7.930%	0.28714	$ 1,829,475,928		6.895%	0.28171	$ 1,794,884,831
2038	$ 6,576,465,261	7.930%	0.26604	$ 1,749,627,984		6.895%	0.26354	$ 1,733,166,008
2039	$ 6,772,907,553	7.930%	0.24650	$ 1,669,498,974		6.895%	0.24654	$ 1,669,802,711
2040	$ 6,960,787,679	7.930%	0.22839	$ 1,589,744,088		6.895%	0.23064	$ 1,605,427,813
2041	$ 7,140,782,902	7.930%	0.21161	$ 1,511,027,903		6.895%	0.21576	$ 1,540,708,955
2042	$ 7,309,687,290	7.930%	0.19606	$ 1,433,122,372		6.895%	0.20184	$ 1,475,420,988
2043	$ 7,469,187,425	7.930%	0.18165	$ 1,356,799,447		6.895%	0.18883	$ 1,410,369,469
2044	$ 7,618,474,414	7.930%	0.16831	$ 1,282,236,505		6.895%	0.17665	$ 1,345,767,189
2045	$ 7,749,658,682	7.930%	0.15594	$ 1,208,482,934		6.895%	0.16525	$ 1,280,639,459
2046	$ 7,860,649,770	7.930%	0.14448	$ 1,135,727,695		6.895%	0.15459	$ 1,215,192,645
2047	$ 7,948,218,464	7.930%	0.13387	$ 1,064,004,312		6.895%	0.14462	$ 1,149,473,233
2048	$ 8,010,403,831	7.930%	0.12403	$ 993,541,074		6.895%	0.13529	$ 1,083,741,887
2049	$ 8,045,751,545	7.930%	0.11492	$ 924,604,186		6.895%	0.12657	$ 1,018,311,029
2050	$ 8,051,023,118	7.930%	0.10647	$ 857,231,527		6.895%	0.11840	$ 953,251,035
2051	$ 8,030,927,588	7.930%	0.09865	$ 792,265,226		6.895%	0.11076	$ 889,537,587
2052	$ 7,987,212,292	7.930%	0.09140	$ 730,058,959		6.895%	0.10362	$ 827,629,958
2053	$ 7,918,832,976	7.930%	0.08469	$ 670,628,047		6.895%	0.09694	$ 767,616,921
2054	$ 7,830,163,164	7.930%	0.07847	$ 614,397,111		6.895%	0.09068	$ 710,062,456
2055	$ 7,721,394,204	7.930%	0.07270	$ 561,347,640		6.895%	0.08483	$ 655,034,003
2065	$ 6,207,478,928	7.930%	0.03389	$ 210,392,212		6.895%	0.04355	$ 270,338,058
2075	$ 3,879,969,590	7.930%	0.01580	$ 61,308,538		6.895%	0.02236	$ 86,744,925
2085	$ 1,300,354,694	7.930%	0.00737	$ 9,579,276		6.895%	0.01148	$ 14,924,555
2095	$ 132,510,935	7.930%	0.00343	$ 455,094		6.895%	0.00589	$ 780,756
2105	$ 2,240,856	7.930%	0.00160	$ 3,588		6.895%	0.00302	$ 6,778
2115	$ 62,685	7.930%	0.00075	$ 47		6.895%	0.00155	$ 97

Recommendation

Based on our analysis of the expected investment return and the current target asset allocation, we recommend reducing the investment return assumption to 6.75 percent for the actuarial valuation as of June 30, 2019, reflecting an inflation assumption of 2.25 percent.

We recommend that the assumed investment return be monitored for continued appropriateness between experience reviews as part of the annual actuarial valuation review process. Also, any significant changes in the target asset allocation of the CERBT may warrant an additional review of the rate of return assumption.

We believe that this assumption can be supported by the Actuarial Standard of Practice No. 27. Under the Standard, all economic assumptions must be selected to be consistent with the purpose of the measurement.

Wage Inflation

Since the recommended general inflation assumption is reduced by 25 basis points from 2.5 percent to 2.25 percent, we recommend reducing the wage inflation assumption by 25 basis points from 2.75 percent to 2.50 percent.

Health Cost and Premium Increases Including the Adjustment for the Excise Tax

Healthcare cost and premium increases are used to model the rate of increase, over time, of the underlying healthcare benefit payments and is often referred to as the healthcare trend rate.

According to Actuarial Standard of Practice No. 6 (ASOP No. 6) section 3.12.1(a):

> *Health care cost trend rates reflect the change in per capita health costs over time due to factors such as inflation, medical inflation, utilization, technology improvements, definition of covered charges, leveraging caused by health plan design features not explicitly modeled, and health plan participation. The actuary should not reflect aging of the covered population when selecting the trend assumption for projecting future costs (see section 3.7.7 for a discussion of "age-specific costs"). The actuary should consider separate trend rates for major cost components such as hospital, prescription drugs, other medical services, Medicare integration, and administrative expenses. Even if the actuary develops one aggregate set of trend rates, the actuary should consider these cost components when developing the aggregate set of trend rates.*
>
> *When developing an initial trend assumption, the actuary should consider known or expected changes in per capita health costs in the year(s) following the measurement date. The actuary should consider the sustainability of current trends over an extended period, and the possible need for a long-term trend assumption that is different from the initial trend assumption. If these two trend assumptions are different, the actuary should choose an appropriate select period and transition pattern between the initial trend assumption and the long-term trend assumption.*
>
> *When developing a long-term trend assumption and the select period for transitioning, the actuary should consider relevant long-term economic factors such as projected growth in per capita gross domestic product (GDP), projected long-term wage inflation, and projected health care expenditures as a percentage of GDP. The actuary should select a transition pattern and select period that reasonably reflects anticipated experience.*

The healthcare trend rates for medical and prescription costs are currently based on a select and ultimate approach meaning higher rates of increase are assumed in the initial years until an ultimate increase rate is reached in the later years. The medical and prescription trend rates are further adjusted for the impact of certain provisions under Federal Healthcare Reform.

The table on the following page shows the current healthcare trend rate assumptions as of the most recent actuarial valuation.

Experience Analysis Results

Year	Trend Assumption - Per Capita Costs						
	PPO Plans				HMO Plans		
	Pre-Medicare		Post-Medicare		Pre-Medicare	Post-Medicare	
	Medical	Rx	Medical	Rx	Medical/Rx	Medical/Rx	Dental
2019	5.00%	5.00%	4.00%	4.00%	0.58%	-1.21%	0.26%
2020	7.50%	7.50%	8.00%	8.00%	7.50%	8.00%	4.50%
2021	7.00%	7.00%	7.50%	7.50%	7.00%	7.50%	4.50%
2022	6.50%	6.50%	7.00%	7.00%	6.50%	7.00%	4.50%
2023	6.00%	6.00%	6.50%	6.50%	6.00%	6.50%	4.50%
2024	5.50%	5.50%	6.00%	6.00%	5.50%	6.00%	4.50%
2025	5.00%	5.00%	5.50%	5.50%	5.00%	5.50%	4.50%
2026	4.50%	4.50%	5.00%	5.00%	4.50%	5.00%	4.50%
2027 and Beyond	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%

Year	Trend Assumption - Premiums and Statutory Cap						
	PPO Plans		HMO Plans				
	Pre-Medicare	Post-Medicare	Pre-Medicare	Post-Medicare			Statutory
	Medical/Rx	Medical/Rx	Medical/Rx	Medical/Rx	Dental	Part B	Cap
2019	5.79%	3.96%	0.58%	-1.21%	0.26%	1.12%	1.30%
2020	7.50%	8.00%	7.50%	8.00%	4.50%	4.50%	7.50%
2021	7.00%	7.50%	7.00%	7.50%	4.50%	4.50%	7.00%
2022	6.50%	7.00%	6.50%	7.00%	4.50%	4.50%	6.50%
2023	6.00%	6.50%	6.00%	6.50%	4.50%	4.50%	6.00%*
2024	5.50%	6.00%	5.50%	6.00%	4.50%	4.50%	5.50%
2025	5.00%	5.50%	5.00%	5.50%	4.50%	4.50%	5.00%
2026	4.50%	5.00%	4.50%	5.00%	4.50%	4.50%	4.50%
2027 and Beyond	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%

**For Future Retirees, the ultimate trend rate on the Employer's explicit contribution includes an additional 0.14 percent to account for the Excise Tax under Federal Healthcare Reform.*

All increases are assumed to occur January 1st of each year beginning January 1, 2019.

The trend rates shown above are net of any increases due to the potential wear-away of the EGWP-Wrap design changes by 2026. Effective trend for the Post-Medicare plans affected by the EGWP-Wrap design changes would be higher until the year 2026. These higher effective trend rates gradually eliminate the approximately 20 percent savings for PERSCare, 24 percent savings for PERS Choice and 18 percent savings for the HMO plans remaining as of June 30, 2018, due to the EGWP-Wrap plan design. After 8 years, the ultimate savings are assumed to equal 9 percent for PERSCare, 12 percent for PERS Choice, and 7 percent for HMO plans.

Retired members as of June 30, 2018, are assumed to pay $130.00 in Medicare Part B Premiums in 2018 and other members as of June 30, 2018, are assumed to pay $134.00 in Medicare Part B Premiums in 2018.

Each year as part of the valuation process, the trend rates are reviewed and updated based on a review of supporting documentation provided by CalPERS and a review of various publically available trend studies. We continue to recommend the use of a select and ultimate trend assumption and the use of the most recent premium information available at the time of the valuation. Trend rates for the upcoming June 30, 2019, valuation will be reviewed and recommended after this report has been issued when more information from CalPERS is available.

Experience Analysis Results

As part of this study, we reviewed the impact of the excise tax on the ultimate trend rates attributable to the State's explicit contribution. Currently, the ultimate trend rate for future retirees was increased by an additional 0.14 of a percentage point to 4.64 percent on and after 2023.

Beginning in 2022, the Patient Protection and Affordable Care Act (PPACA) imposes a 40 percent excise tax, also known as the "Cadillac Tax," on healthcare plan costs over certain statutory limits. The annual statutory limits depend on the age and coverage tier as follows:

	Age less than 55 or greater than 64	Age greater than 54 or less than 65
Single person coverage	$10,200	$11,850
All other coverage types	$27,500	$30,950

Before the Cadillac Tax takes effect, the preceding statutory limits are expected to be updated for inflation. The statutory limits do not recognize differences due to region, health status of the group, or plan design. Healthcare plan costs may be blended among active members, pre-Medicare retirees, and Medicare retirees if members are covered by the same plan, and similar benefits are provided. Healthcare plan costs subject to the Cadillac Tax include medical, prescription, and employer Health Savings Accounts and Health Reimbursement Accounts.

The impact of the Cadillac Tax was estimated by:

1) Aggregating average costs by the PPO plans and the HMO plans;
2) Projecting average plan costs based on the assumed trend rate used in the June 30, 2018, valuation;
3) Premium information through December 31, 2019;
4) Projecting the statutory limits assuming an inflation rate of 2.75 percent;
5) Estimating the projected excise tax based on the projected average costs and statutory limits;
6) Assuming the plan sponsor would subsidize the excise tax and no additional costs would be passed to plan members; and
7) Developing an adjusted trend rate, applied to the explicit costs, to approximate the impact of the additional excise tax costs.

Based on the updated analysis, the ultimate trend rate for future retirees was increased by an additional 0.18 of a percentage point to 4.68 percent on and after 2023.

However, the Cadillac Tax which was originally scheduled to take effect for 2018, has been delayed twice, most recently until 2022. Moreover, the federal government has enacted H.R. 1865, *Further Consolidated Appropriations Act, 2020*, which repeals excise taxes on three key revenue provisions affecting healthcare plans: 1.) High Cost Employer-Sponsored Health Coverage (also known as the "Cadillac Tax"), 2.) the Medical Device Excise Tax, and 3.) the annual Health Insurance Providers fee (also known as the "Health Insurance Tax"). The repeal is effective for tax years beginning after December 31, 2019.

The Cadillac Tax trend adjustment will be removed beginning with the actuarial valuation as of June 30, 2020.

Employer Group Waiver Plan

The following table shows Rx rebates and EGWP subsidies as a percentage of Rx gross costs and as a percentage of Rx gross costs and medical costs. During the last four years Rx rebates and EGWP savings percentages show a decreasing trend. The actuarial valuation assumes that Rx rebates and EGWP will gradually wear-away and reach an ultimate savings percentage. For the June 30, 2018, actuarial valuation the ultimate savings percentage was assumed to be reached in eight years and was assumed to be 9 percent of average costs for PERSCare, 12 percent of average costs for PERS Choice/Select, and 7 percent of average costs for HMO plans.

Medicare Per Member Per Month (PMPM) Costs	PERSCare				PERS Choice/Select			
	2018	2017	2016	2015	2018	2017	2016	2015
Rx Gross Cost PMPM	$ 387.43	$ 387.18	$ 374.63	$ 359.58	$ 380.89	$ 367.52	$ 357.97	$ 325.34
PBM rebates and EGWP subsidies	$ (124.26)	$ (139.26)	$ (134.92)	$ (130.53)	$ (138.23)	$ (148.39)	$ (147.77)	$ (133.55)
Net Rx costs	$ 263.17	$ 247.91	$ 239.71	$ 229.04	$ 242.67	$ 219.13	$ 210.20	$ 191.79
Rebates and EGWP savings as percentage of Rx costs	32.1%	36.0%	36.0%	36.3%	36.3%	40.4%	41.3%	41.0%
Total Medical and Rx Costs PMPM before subsidies	$ 616.34	$ 620.03	$ 603.51	$ 586.27	$ 580.07	$ 564.77	$ 541.38	$ 504.86
Net Medical and Rx Costs	$ 492.08	$ 480.76	$ 468.59	$ 455.74	$ 441.84	$ 416.37	$ 393.62	$ 371.31
PBM rebates and EGWP subsidies as a percentage of total costs	20.2%	22.5%	22.4%	22.3%	23.8%	26.3%	27.3%	26.5%
Assumed Long-term Ultimate Savings	9%	7%	4%	4%	12%	10%	7%	7%
Period to Reach Ultimate Savings	8	9	6	6	8	9	6	6

We recommended increasing the ultimate savings factor to 12 percent of average costs for PERSCare, 15 percent of average costs for PERS Choice/Select, and 10 percent for HMO plans. The ultimate savings factors are reflected in the actuarial valuation by slightly increasing the assumed trend rates for Medicare coverage. We recommend decreasing the incremental trend increases to reflect that a greater proportion of savings will remain in future years. The following table compares proposed and current adjusted trend rates applicable to Medicare coverage. For future actuarial valuations, we recommending reviewing emerging experience and adjusting the incremental trend increase assumption.

Experience Analysis Results

Year	Effective Trend with EGWP Adjustment					
	PERSCare		PERS Choice/Select		HMO	
	Proposed	Current	Proposed	Current	Proposed	Current
2018	6.32%	7.12%	6.61%	7.46%	0.98%	1.76%
2019	10.03%	10.73%	10.29%	11.02%	9.92%	10.60%
2020	9.24%	9.84%	9.46%	10.09%	9.14%	9.73%
2021	8.45%	8.95%	8.63%	9.16%	8.37%	8.86%
2022	7.66%	8.06%	7.81%	8.23%	7.59%	7.98%
2023	6.87%	7.17%	6.98%	7.30%	6.82%	7.11%
2024	6.08%	6.28%	6.15%	6.36%	6.05%	6.24%
2025	5.29%	5.39%	5.33%	5.43%	5.27%	5.37%
2026	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
Ultimate Savings	12%	9%	15%	12%	10%	7%

Participation Percentage

We have reviewed the participation assumption, or the likelihood that an active member will retire and select healthcare coverage. This assumption generally depends on the subsidy provided by the employer. That is, the higher the level of employer benefits, and the lower the level of retiree-paid premium, the higher the likelihood the retired member will select healthcare coverage.

The following table shows the current participation assumption:

Employer Contribution Percentage of Premium	Participation Rate for Retirees with Healthcare Coverage While Active	Participation Rate for Retirees without Healthcare Coverage While Active
less than 50%	75%	15%
50% to 75%	90%	15%
75% to 90%	95%	25%
90% to 100%	98%	50%

Currently, it is assumed that the participation is higher at retirement if the member had coverage while they were an active employee versus if they waived coverage as an active employee.

In order to develop the participation assumption, we compiled historical valuation data and analyzed the actual number of new retirees that elect coverage at retirement in relation to the employer contribution for which they are eligible.

Experience Analysis Results

The next two tables present experience for new retirees, who were covered while active and continue coverage at retirement, broken out by:

- Year of retirement; and
- Percent of premium paid by employer.

Overall participation for this group over the last five years was over 95 percent.

New Retirees Who Were Covered While Active - Overall Participation Experience			
Year	Total Number of New Retirees	Total Number of New Retirees Electing Coverage	Actual Participation Rate
2015	8,833	8,381	94.9%
2016	8,622	8,166	94.7%
2017	8,704	8,320	95.6%
2018	8,660	8,292	95.8%
Total	**34,819**	**33,159**	**95.2%**

New Retirees Who Were Covered While Active - Overall Participation Experience					
Employer Contribution Percent of Premium	Total Number of New Retirees	Total Number of New Retirees Electing Coverage	Actual Participation Rate	Current Participation Rate Assumption	Proposed Participation Rate Assumption
50% or less	2,343	1,565	66.8%	75.0%	67.0%
50% to 75%	3,534	3,222	91.2%	90.0%	91.0%
75% to 90%	1,793	1,723	96.1%	95.0%	96.0%
90% to 100%	27,149	26,649	98.2%	98.0%	98.0%
Total	**34,819**	**33,159**	**95.2%**	**95.5%**	**95.1%**

The proposed participation assumption is slightly lower than the current participation assumption. Therefore, fewer members who were covered as actives will be assumed to participate as retirees under the proposed assumption.

Experience Analysis Results

The next two tables present experience for new retirees, who were not covered while active and elect coverage at retirement, broken out by:

- Year of retirement; and
- Percent of premium paid by employer.

Overall participation for this group over the last five years was over 28 percent.

New Retirees Who Were Not Covered While Active - Overall Participation Experience			
Year	Total Number of New Retirees	Total Number of New Retirees Electing Coverage	Actual Participation Rate
2015	1,557	466	29.9%
2016	1,658	503	30.3%
2017	1,694	464	27.4%
2018	1,528	403	26.4%
Total	**6,437**	**1,836**	**28.5%**

New Retirees Who Were Not Covered While Active - Overall Participation Experience					
Employer Contribution Percent of Premium	Total Number of New Retirees	Total Number of New Retirees Electing Coverage	Actual Participation Rate	Current Participation Rate Assumption	Proposed Participation Rate Assumption
50% or less	1,031	113	11.0%	15.0%	12.0%
50% to 75%	919	133	14.5%	15.0%	15.0%
75% to 90%	409	82	20.0%	25.0%	20.0%
90% to 100%	4,078	1,508	37.0%	50.0%	40.0%
Total	**6,437**	**1,836**	**28.5%**	**37.8%**	**30.7%**

The proposed participation assumption is lower than the current participation assumption. Therefore, fewer members who were not covered while active will be assumed to participate as retirees under the proposed assumption.

Percent of Disabilities Treated as Post-Medicare

Some disabled members who are under the age of 65 are eligible for Medicare coverage. Currently it is assumed that 5 percent of Public Safety disabilities and 35 percent of all other disabilities are assumed to be eligible for Medicare.

In order to analyze this assumption, we reviewed the number of disabled members who are under the age of 65 that are currently receiving coverage under Medicare. The following table summarizes the results of the analysis.

Public Safety			
Year	Total Number Disabled Under the Age of 65	Number Currently Medicare Eligible	Percent Medicare Eligible
2015	9,207	369	4.0%
2016	9,211	369	4.0%
2017	9,128	358	3.9%
2018	9,042	344	3.8%
Total	**36,588**	**1,440**	**3.9%**

Non Public Safety			
Year	Total Number Disabled Under the Age of 65	Number Currently Medicare Eligible	Percent Medicare Eligible
2015	6,207	2,009	32.4%
2016	5,959	1,949	32.7%
2017	5,632	1,864	33.1%
2018	5,355	1,835	34.3%
Total	**23,153**	**7,657**	**33.1%**

As shown, approximately 3.9 percent of public safety and 33.1 percent of non-public safety disabled members under the age of 65 are currently receiving Medicare coverage.

Therefore, we recommend that 4 percent of Public Safety disabilities and 33 percent of all other disabilities are assumed to be eligible for Medicare coverage.

Coverage and Continuance Assumptions

Currently, it is assumed that 40 percent of participating members will elect one-party coverage, while 60 percent will elect two-party coverage. Of the members electing two-party coverage, we assumed that 100 percent of surviving spouses would continue coverage after the death of the retiree.

In order to analyze this assumption, we reviewed the coverage election data for new retirees over the past five years. The following table shows the actual coverage election percentages.

Coverage Type	Total Number of New Retirees	Actual Coverage Type Rate	Proposed Coverage Type Rate
Single	12,932	37.0%	40.0%
Two Person	22,063	63.0%	60.0%
Total	**34,995**	**100%**	**100%**

As shown, the actual coverage election percentage was 37 percent of participating members elect one-party coverage, while 63 percent will elect two-party coverage. Therefore, we recommend maintaining the assumption that 40 percent of participating members elect one-party coverage, while 60 percent will elect two-party coverage

The data that is collected for the valuation does not contain enough information to analyze the continuation assumption. But, based on the fact that overall participation is very high and the generous State contribution, it is reasonable to assume that 100 percent of surviving spouses would continue coverage after the death of the retiree. We recommend maintaining this assumption.

Contract Mix

Active members are assumed to elect the same healthcare plan type at retirement that they currently have as an active employee. Active members who have waived coverage as of the actuarial valuation date are assumed to elect an HMO plan at retirement.

Active Members as of June 30, 2018	
Medical Plan Type	Current Contract Mix
CAHP	2.3%
HMO	64.7%
PERS Choice	8.7%
PERS Select	3.8%
PERSCare	1.5%
PORAC	0.1%
Waived	18.9%

Current retirees are assumed to continue coverage under the current healthcare plan as of the actuarial valuation date.

Retirees as of June 30, 2018	
Medical Plan	% of Members with Health Coverage Electing Plan
Anthem Blue Cross	0.7%
Blue Shield	4.9%
Health Net	0.3%
Kaiser	34.0%
Kaiser Out-of-State	0.6%
Sharp	0.2%
UnitedHealthcare	10.8%
PERS Choice	23.7%
PERS Select	0.8%
PERSCare	19.0%
CAHP	2.7%
CCPOA	1.9%
PORAC	0.1%
Western Health	0.1%

We recommend maintaining this assumption.

Age/Gender Factors

In any given year, the cost of medical and prescription drug benefits vary by age. As the ages of employees and retirees in the covered population increase so do the cost of benefits. Morbidity tables are employed to develop Per Capita Costs at every relevant age. The following table shows the current aging factors used in the most recent actuarial valuation and represents the percent by which the cost of benefits for non-disabled lives at one age is higher than the cost for the previous age. For example, according to the following table, the cost of benefits for a male in the PPO plan age 55 is 2.89 percent higher than for one age 54. These percentages below are separate from the annual Medical Trend, which operates to increase costs independent of and in addition to the Aging Factors shown below.

Sample Ages	Cost Increase by Age					
	Medical - PPO		Rx - PPO		HMO	
	Male	Female	Male	Female	Male	Female
45	3.26%	1.48%	7.27%	6.56%	3.21%	1.58%
50	3.07%	1.61%	4.54%	4.20%	3.14%	1.67%
55	2.89%	1.69%	3.04%	2.84%	3.20%	1.90%
60	2.73%	1.75%	2.04%	1.92%	2.88%	1.98%
65	2.58%	1.78%	1.30%	1.22%	2.65%	1.89%
70	2.44%	1.80%	0.69%	0.64%	2.48%	1.85%
75	2.32%	1.79%	0.15%	0.11%	2.33%	1.82%
80	2.20%	1.78%	0.00%	0.00%	2.21%	1.79%
85	2.10%	1.75%	0.00%	0.00%	2.10%	1.76%
90	2.00%	1.72%	0.00%	0.00%	2.00%	1.73%

We have developed updated aging factors for the PPO medical and prescription drug plans based on gross claim and enrollment experience data broken out by five-year age bands, for calendar years 2014 through 2018. Average gross costs were developed by gender at each age interval for each respective calendar year. These costs were weighted, smoothed, and the average increase at each age was estimated using interpolation formulas. Aging factors for the HMO are the same as the current HMO aging factors.

The table on the following page shows the updated aging factors.

Experience Analysis Results

Sample Ages	Cost Increase by Age					
	Medical - PPO		Rx - PPO		HMO	
	Male	Female	Male	Female	Male	Female
45	2.65%	2.24%	3.58%	3.83%	3.21%	1.58%
50	2.63%	2.18%	2.85%	2.96%	3.14%	1.67%
55	2.58%	2.12%	2.32%	2.35%	3.20%	1.90%
60	2.51%	2.06%	1.93%	1.90%	2.88%	1.98%
65	2.43%	1.99%	1.62%	1.55%	2.65%	1.89%
70	2.35%	1.92%	1.36%	1.26%	2.48%	1.85%
75	2.26%	1.86%	1.15%	1.02%	2.33%	1.82%
80	2.17%	1.79%	0.97%	0.81%	2.21%	1.79%
85	2.09%	1.73%	0.81%	0.62%	2.10%	1.76%
90	2.01%	1.67%	0.67%	0.45%	2.00%	1.73%

Generally speaking, the change in aging factors produced higher claims amounts for males and lower claims amounts for females. Details on the actual impact to the aged per capita claims costs are shown on the following pages.

Aged Per Capita Claim Costs Based on Updated Aging Factors – Medical and Prescription

Per capita claims costs were developed separately for PERS Choice, PERSCare, and the HMO plans. Costs for the PERS Choice and PERSCare plans were based on paid and incurred experience and enrollment information. Costs for the HMO plans were based on the aggregate premium and enrollment data for active and retired members. The per capita costs for PERS Select and the two association PPOs (CAHP and PORAC) are developed using costs for PERS Choice adjusted by the ratio of single premium for the association plan and PERS Choice.

As a result of the updated aging factors, the average costs used in the most recent valuation for each respective plan would change as follows:

Costs for Retirees and Spouses Expected Monthly Per Capita Costs						
	PERS Choice - PPO					
	Medical					
	Male			Female		
Age	Current	Proposed	Change	Current	Proposed	Change
50	$568.21	$565.76	-0.4%	$568.21	$565.76	-0.4%
55	660.91	644.16	-2.5%	615.34	630.29	2.4%
60	762.19	731.70	-4.0%	669.24	700.05	4.6%
65	154.69	146.22	-5.5%	129.47	136.81	5.7%
70	175.70	164.89	-6.1%	141.43	150.96	6.7%
75	198.23	185.18	-6.6%	154.60	166.04	7.4%
80	222.29	207.07	-6.8%	168.96	182.04	7.7%
	Prescription					
	Male			Female		
Age	Current	Proposed	Change	Current	Proposed	Change
50	$158.15	$171.23	8.3%	$158.15	$171.23	8.3%
55	197.49	197.02	-0.2%	194.27	198.10	2.0%
60	229.38	220.98	-3.7%	223.46	222.52	-0.4%
65	233.36	217.90	-6.6%	225.92	219.12	-3.0%
70	248.96	236.09	-5.2%	240.01	236.59	-1.4%
75	257.71	252.64	-2.0%	247.73	251.85	1.7%
80	259.59	267.55	3.1%	249.07	264.91	6.4%

Experience Analysis Results

Costs for Retirees and Spouses Expected Monthly Per Capita Costs						
	PERSCare - PPO Medical					
	Male			Female		
Age	Current	Proposed	Change	Current	Proposed	Change
50	$779.71	$775.15	-0.6%	$779.71	$775.15	-0.6%
55	906.91	882.58	-2.7%	844.38	863.58	2.3%
60	1,045.89	1,002.51	-4.1%	918.34	959.15	4.4%
65	169.68	158.86	-6.4%	142.02	148.63	4.7%
70	192.72	179.14	-7.0%	155.14	164.01	5.7%
75	217.44	201.18	-7.5%	169.58	180.39	6.4%
80	243.83	224.97	-7.7%	185.34	197.77	6.7%
	Prescription					
	Male			Female		
Age	Current	Proposed	Change	Current	Proposed	Change
50	$184.88	$199.21	7.8%	$184.88	$199.21	7.8%
55	230.87	229.22	-0.7%	227.10	230.47	1.5%
60	268.15	257.09	-4.1%	261.23	258.88	-0.9%
65	250.80	227.46	-9.3%	242.80	228.73	-5.8%
70	267.57	246.45	-7.9%	257.95	246.96	-4.3%
75	276.97	263.72	-4.8%	266.25	262.90	-1.3%
80	279.00	279.28	0.1%	267.69	276.53	3.3%

Costs for Retirees and Spouses Expected Monthly Per Capita Costs						
	HMO Plans Medical/RX					
	Male			Female		
Age	Current	Proposed	Change	Current	Proposed	Change
50	$703.36	$703.36	0.0%	$777.91	$777.91	0.0%
55	821.58	821.58	0.0%	844.20	844.20	0.0%
60	961.30	961.30	0.0%	925.29	925.29	0.0%
65	279.16	279.16	0.0%	257.14	257.14	0.0%
70	318.14	318.14	0.0%	282.43	282.43	0.0%
75	359.51	359.51	0.0%	309.56	309.56	0.0%
80	403.44	403.44	0.0%	338.78	338.78	0.0%

Adjustments for Disabled Members

Currently in the valuation, claims for disabled members are increased by 10 percent if not eligible for Medicare and 40 percent if eligible for Medicare.

Credible data is not available; therefore, based on industry standard information, we recommend maintaining the assumption to increase claims for disabled members by 10 percent if not eligible for Medicare and 40 percent if eligible for Medicare.

Adjustments for Children

Claims for current retirees and survivors of retirees with children are increased to account for claims generated by children. Currently, this increase is equal to 8 percent for medical and Rx claims and 10 percent for dental claims. The loads are removed once the retiree or survivor reaches the age of 65. Based on observed experience we recommend changing the rates as follows:

Children's Claim Adjustment Factor for Retirees under Age 65				
	General Retirees		Public Safety Retirees	
Claims Type	Current	Proposed	Current	Proposed
Medical and Rx	8.0%	7.5%	8.0%	8.0%
Dental	10.0%	10.5%	10.0%	11.5%

Claims for future retirees with children are increased to account for claims generated by children. Currently, this increase is equal to 2 percent for medical and Rx claims and 3 percent for dental claims. These factors apply to both non-Medicare and Medicare coverage. Based on observed experience we recommend changing the rates as follows:

Children's Claim Adjustment Factor for Future Retirees				
	General Retirees		Public Safety Retirees	
Claims Type	Current	Proposed	Current	Proposed
Medical and Rx	2.0%	2.5%	2.0%	3.0%
Dental	3.0%	2.0%	3.0%	2.5%

Per Capita Claim Costs – Dental

The following table represents the assumed per capita dental claims costs for sample ages used in the most recent valuation. Costs were developed separately for DPO/Indemnity and the Pre-Paid Plans, based on actual premium, claim and enrollment data. Because dental costs generally do not vary by age or gender, they remain unchanged as a result of this experience analysis.

Costs for Retirees and Spouses Expected Monthly Per Capita Costs - Non CSU Retirees				
	Dental Plans			
	DPO/Indemnity		Pre-Paid Plans	
Age	First Person	Second Person	First Person	Second Person
50	$51.91	$38.71	$19.18	$11.46
55	51.91	38.71	19.18	11.46
60	51.91	38.71	19.18	11.46
65	51.91	38.71	19.18	11.46
70	51.91	38.71	19.18	11.46
75	51.91	38.71	19.18	11.46
80	51.91	38.71	19.18	11.46

Costs for Retirees and Spouses Expected Monthly Per Capita Costs - CSU Retirees				
	Dental Plans			
	DPO/Indemnity		Pre-Paid Plans	
Age	First Person	Second Person	First Person	Second Person
50	$33.00	$28.56	$20.81	$12.46
55	33.00	28.56	20.81	12.46
60	33.00	28.56	20.81	12.46
65	33.00	28.56	20.81	12.46
70	33.00	28.56	20.81	12.46
75	33.00	28.56	20.81	12.46
80	33.00	28.56	20.81	12.46

We recommend maintaining the methodology currently being used to develop the dental claims costs.

Medicare Part B Premiums

Currently, retired members as of June 30, 2018, are assumed to pay $130.00 in 2018 and other members as of June 30, 2018, are assumed to pay $134.00 in 2018. Furthermore, the valuation currently assumes Social Security benefit increases will be sufficient to cover projected increases in the Part B premium. Our valuation does not consider the member's income when estimating Part B premiums.

We recommend maintaining these assumptions for Medicare Part B premiums.

Medicare Part B Reimbursement

For eligible retirees, if the retiree is signed up for a CalPERS sponsored Medicare plan and the monthly State contribution is more than the plan's monthly premium, CalPERS will credit the retiree the difference between the two amounts, up to the amount of the Part B premium.

Year	Standard Part B Premium per Member		Number of Part B Reimbursements (per member)				
	Continuing Retiree	New Retiree	No Part B Reimbursement	Below Standard Part B Premium	Standard Part B Premium	Above Standard Part B Premium	Total
2014	$104.90	$104.90	1,764	3,074	141,933	3,201	149,972
2015	$104.90	$104.90	2,538	3,841	147,312	3,828	157,519
2016	$104.90	$121.80	2,208	3,488	153,468	5,267	164,431
2017	$109.00	$134.00	2,314	4,110	158,510	6,545	171,479
2018	$130.00	$134.00	2,219	5,016	164,373	7,492	179,100

Following is a table of sample healthcare plans and amounts available for Part B Reimbursement after the medical premium.

Sample Amounts Available for Medicare Part B Reimbursements			
Health Plan	2018 Maximum State Contribution	2018 Employee Only Medicare Premium	Amount Remaining for Part B Reimbursement
Kaiser	$725.00	$316.34	$408.66
Blue Shield HMO	$725.00	$330.76	$394.24
PERS Choice	$725.00	$345.97	$379.03
PERSCare	$725.00	$382.30	$342.70
United Healthcare	$725.00	$330.76	$394.24

Data Processing Assumptions

Each year due to certain data limitations, certain assumptions are made during data processing. In the past, these assumptions have been immaterial to the results of the valuation. As part of the annual data review process, we recommend evaluating whether or not certain data assumptions are necessary. Furthermore, any assumption pertaining to data processing will be disclosed in the actuarial valuation report.

SECTION III

COST IMPACT OF RECOMMENDED CHANGES

Cost Impact of Recommended Changes

If approved by the SCO, the proposed assumptions will first be used in the actuarial valuation as of June 30, 2019. Below we have presented the impact of changing the assumptions on the June 30, 2018. This is presented for informational purposes only.

Cost Impact of Recommended Changes

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM IMPACT OF CHANGE IN ASSUMPTIONS FULL-FUNDING ACTUARIAL VALUATION AT JULY 1, 2018 ($ IN 000'S) TOTAL OF ALL ACTUARIAL VALUATION GROUPS							
	Current Assumptions	Change in Interest Rate	Change in Participation, Coverage, Continuance and Contract Mix	Change in Aging, Disability Load, Children Load, and Percent of Future Disabled Members Eligible for Medicare and Part B Premiums	Change in EGWP	Change in all Other Assumption Changes including Excise Tax, and Data Processing	After All Recommended Changes
Number of Participants Covered							
Active Participants	272,078	-	-	-	-	-	272,078
Retired Participants[a]	187,622	-	-	-	-	-	187,622
Total Participants	459,700	-	-	-	-	-	459,700
Actuarial Present Value of Projected Benefits							
Active Participants	$ 36,896,456	$ 2,114,881	$ (588,555)	$ 20,331	$ (599,216)	$ 174,598	$ 38,018,495
Retired Participants	32,546,122	852,499	-	762,726	(612,168)	-	33,549,179
Total Participants	$ 69,442,578	$ 2,967,380	$ (588,555)	$ 783,057	$ (1,211,384)	$ 174,598	$ 71,567,674
Actuarial Accrued Liability							
Active Participants	$ 23,577,036	$ 1,221,959	$ (333,129)	$ 5,959	$ (388,916)	$ 95,742	$ 24,178,651
Retired Participants	32,546,122	852,499	-	762,726	(612,168)	-	33,549,179
Total Participants	$ 56,123,158	$ 2,074,458	$ (333,129)	$ 768,685	$ (1,001,084)	$ 95,742	$ 57,727,830
Actuarial Value of Assets	$ 874,286	$ -	$ -	$ -	$ -	$ -	$ 874,286
Unfunded Actuarial Accrued Liability	$ 55,248,872	$ 2,074,458	$ (333,129)	$ 768,685	$ (1,001,084)	$ 95,742	$ 56,853,544

[a]Retired participants with dental only coverage, 11,459 as of July 1, 2018, are excluded from the above counts but are reflected in the actuarial valuation.

Cost Impact of Recommended Changes

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM IMPACT OF CHANGE IN ASSUMPTIONS FULL-FUNDING ACTUARIAL VALUATION AT JULY 1, 2018 ($ IN 000'S) TOTAL OF ALL ACTUARIAL VALUATION GROUPS							
	Current Assumptions	Change in Interest Rate	Change in Participation, Coverage, Continuance and Contract Mix	Change in Aging, Disability Load, Children Load, and Percent of Future Disabled Members Eligible for Medicare and Part B Premiums	Change in EGWP	Change in all Other Assumption Changes including Excise Tax, and Data Processing	After All Recommend Changes
Net Employer ADC for FYE June 30, 2019							
Normal Cost	$ 1,434,214	$ 83,361	$ (26,818)	$ 1,318	$ (23,527)	$ 7,038	$ 1,475,586
Administrative Expenses	5,688	-	(1)	113	(9)	-	5,791
Amortization of UAAL	3,232,885	124,222	(19,316)	45,050	(58,729)	5,547	3,329,659
Total ADC	$ 4,672,787	$ 207,583	$ (46,135)	$ 46,481	$ (82,265)	$ 12,585	$ 4,811,036
Estimated Member Contributions	(240,706)	(279)	(9,634)	(464)	3,589	(1,198)	(248,692)
Net Employer ADC	$ 4,432,081	$ 207,304	$ (55,769)	$ 46,017	$ (78,676)	$ 11,387	$ 4,562,344
Expected Claim Costs for FYE June 30, 2019							
Employer Explicit Costs							
Medical and Rx Claims	$ 1,576,478	$ -	$ (507)	$ 10	$ -	$ -	$ 1,575,981
Part B Reimbursement	281,265	-	(47)	3,152	-	-	284,370
Dental Claims	114,181	-	(33)	3,082	-	-	117,230
Total	$ 1,971,924	$ -	$ (587)	$ 6,244	$ -	$ -	$ 1,977,581
Employer Implicit Costs	302,137	-	(149)	41,066	(3,569)	-	339,485
Total Employer Costs	$ 2,274,061	$ -	$ (736)	$ 47,310	$ (3,569)	$ -	$ 2,317,066
Retiree Share of Claim Costs							
Medical and Rx Claims	$ 93,379	$ -	$ (220)	$ (1)	$ -	$ -	$ 93,158
Dental Claims	30,449	-	(12)	(27)	-	-	30,410
Total	$ 123,828	$ -	$ (232)	$ (28)	$ -	$ -	$ 123,568
Total Claims Costs	$ 2,397,889	$ -	$ (968)	$ 47,282	$ (3,569)	$ -	$ 2,440,634

[a] *The explicit employer cost is an estimate of the employer paid premium for the fiscal year-end June 30, 2019. It is based on an actuarial projection of the retiree population using the demographic assumptions contained in Sections E and F of the report, and a projection of premium rates assuming actual trend for fiscal year-end June 30, 2019. The actual explicit employer subsidy will be updated based on the actual blended premium paid by the employer during the fiscal year.*

[b] *The total employer costs, comprised of the explicit and implicit subsidy, will also be updated at fiscal year-end, as the actual claim experience for retired members becomes available.*

SECTION IV

GLOSSARY

Glossary

Accrued Service. The service credited under the plan, which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability (AAL). The difference between (i) the actuarial present value of future plan benefits; and (ii) the actuarial present value of future normal cost, which is sometimes referred to as "accrued liability" or "past service liability."

Actuarial Assumptions. Key OPEB-related assumptions include per capita costs, healthcare trend inflation, and participation at retirement. Key pension-related assumptions include mortality, disability, turnover, retirement, and salary increases. OPEB-related per capita costs are generally based on claims, enrolment experience, and a set of aging factors. Demographic assumptions such as rates of mortality, disability, turnover, and retirement are generally based on past experience, often modified for projected changes in conditions. Discount rates are generally based on the expected return on assets supporting the liability.

Actuarial Cost Method. A method of allocating cost during an active member's working lifetime. The portion of present value of future benefits attributable to prior service is called the actuarial accrued liability. The portion of the present value of future benefits attributable to future service is called the present value of future normal costs.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Actuarial Value of Assets. The value of cash, investments, and other property belonging to a pension or OPEB plan, as used by the actuary for the purpose of an actuarial valuation.

Amortization. A schedule to finance an interest-bearing liability by means of periodic payments of interest and principal.

Annual OPEB Expense. An accrual-basis measure of the periodic cost of an employer's participation in a defined OPEB plan.

Actuarial Determined Contribution (ADC). The ADC is the normal cost plus the portion of the unfunded actuarial accrued liability to be amortized in the current period.

Discount Rate. The rate used to adjust a series of future payments to reflect the time value of money.

Entry-Age Normal Cost Actuarial Method. A method under which the actuarial present value of projected benefits of each individual included is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost.

Expected Net Employer Cost. The difference between the age-adjusted per capita claim cost and retiree's share of the premium.

Glossary

Explicit Rate Subsidy. The portion of the premium paid by the employer. The premium may be based on the experience of active and retired members or retired members only.

Governmental Accounting Standards Board (GASB). GASB is the private, nonpartisan, nonprofit organization that works to create and improve the rules U.S. state and local governments follow when accounting for their finances and reporting them to the public.

Implicit Rate Subsidy. The difference between the age-adjusted per capita claims costs and premium rate.

Medical Trend Rate (Health Inflation). The increase in the plan's cost over time. Trend includes all elements that may influence a plan's cost, with the exception of increases to due age. Trend elements include price inflation, changes in utilization, advances in medical technology, and cost shifting.

Net OPEB Liability. An accounting liability based on the difference between the Total OPEB Liability and Fiduciary Net Position, which is similar to the difference between the Actuarial Accrued Liability using the Entry Age Normal cost method and the Market Value of Assets. .

Normal Cost. The portion of the present value of benefits attributable to the current plan year under the given cost method.

Other Postemployment Benefits (OPEB). OPEB means postemployment benefits other than pensions. OPEB generally takes the form of medical, prescription drugs, dental, vision, or other healthcare benefits.

Pay-As-You-Go Funding. A method of financing benefits by making required benefit payments only as they come due.

Plan Member. A plan's membership includes active service employees, terminated employees who are eligible to receive benefits in the future, and retired employees and beneficiaries who are currently receiving benefits.

Pre-Funding. A policy of financing benefits by making contributions into an interest earning dedicated trust so that contributions and investment income can be used to pay future benefits.

Present Value of all Projected Benefits. The present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value of money and the probabilities of payment.

Unfunded Actuarial Accrued Liability (UAAL). The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

Valuation Assets. The value of current plan assets recognized for valuation purposes.