

# State Of California Retiree Health Benefits Program

GASB Nos. 74 and 75 Actuarial Valuation Report  
As of June 30, 2019





August 28, 2020

The Honorable Betty T. Yee  
California State Controller  
300 Capitol Mall, Suite 1850  
Sacramento, California 95814

Dear Controller Yee:

Submitted in this report are the results of our actuarial valuation as of June 30, 2019, of the liabilities associated with Other Postemployment Benefits (OPEB), including 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 Resource (CalHR). This report was prepared at the request of the State Controller's Office (SCO) for the purpose of satisfying the State of California's financial reporting requirements.

The actuarial calculations were prepared for purposes of complying with the requirements of Statements No. 74 and 75 of the Governmental Accounting Standards Board (GASB). The calculations reported herein have been made on a basis consistent with our understanding of these accounting standards. This report also provides actuarial funding costs assuming a full-funding policy and a full-funding interest rate of 6.75 percent.

Determinations of the liability associated with the benefits described in this report for purposes other than those stated may produce significantly different results. This report may be provided to parties other than the SCO only in its entirety and only with the permission of the SCO. GRS is not responsible for unauthorized use of this report.

The actuarial valuation report provides the following information:

- An actuarial valuation of plan liabilities as of June 30, 2019, using census data as of June 30, 2019;
- A reconciliation of Total OPEB Liability from June 30, 2018, to June 30, 2019;
- The development of OPEB expense for the State's fiscal year end June 30, 2020, using a measurement date of June 30, 2019;
- The deferred inflows and outflows applicable to year end June 30, 2019;
- Disclosure of certain Required Supplementary Information such as the impact of a percentage point change on the discount rate or the ultimate healthcare trend rate;
- Support of the discount rate used to develop the Total OPEB Liability; and
- Development of the Actuarially Determined Contribution, actuarial accrued liability and normal cost assuming a full-funding interest rate of 6.75 percent.

The actuarial valuation was based on information furnished by the SCO, CalPERS, and CalHR concerning retiree healthcare benefits, members' census data, and financial data. Data was reviewed for reasonableness and internal consistency but was not audited. We are not responsible for the accuracy or completeness of the information received to produce this actuarial valuation. OPEB-related actuarial valuation assumptions are based on an Experience Review Study for the period from July 1, 2014, to June 30, 2019. Pension-related actuarial valuation assumptions are based on assumptions used for the 2019 actuarial valuations of CalPERS statewide pension plans.

To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Retiree Healthcare Benefit Program sponsored by the State of California as of June 30, 2019. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

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.

The signing actuaries are independent of the plan sponsor.

Alex Rivera, James E. Pranschke, and Lance J. Weiss are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein.

Respectfully submitted,

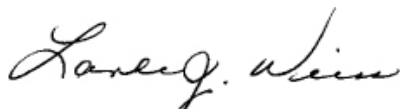
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## EXECUTIVE SUMMARY

# Executive Summary

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## Introduction

The Governmental Accounting Standards Board (GASB) issued accounting standards, Statements No. 43 and 45, relating to Other Postemployment Benefits (OPEB). Under these statements, public employers sponsoring and subsidizing retiree healthcare benefit programs recognized the cost of such benefits on an accrual basis. GASB No. 45 first became effective for the State's fiscal year end June 30, 2008, and required:

- Recognition of the cumulative difference between the annual expense and employer contributions; i.e., Net OPEB Obligation, on the balance sheet.
- Disclosure of the unfunded actuarial liability off the balance sheet as part of Required Supplementary Information.
- Development of an actuarial liability and normal cost using a discount rate based on the funding policy and expected return on assets. Since the State financed retiree benefits primarily on a pay-as-you-go basis (PayGO), the discount rate assumption was set to 4.25 percent for the most recent GASB Statements No. 43 and 45 actuarial valuations.
- Development of annual expense, or Annual OPEB Cost, based on the normal cost plus a 30-year amortization of the unfunded actuarial liability, with certain adjustment for changes in the Net OPEB Obligation.

GASB Statements No. 43 and 45 were replaced by GASB Statements No. 74 and 75. GASB No. 74 first applied to plan reporting for the plan year end June 30, 2017. GASB No. 75 first applied to the State's reporting for the fiscal year end June 30, 2018. GASB No. 75 requires:

- Recognition of the unfunded actuarial liability; i.e., Net OPEB Liability, on the balance sheet.
- Development of an actuarial liability and normal cost using a blended discount rate which is based on a 20-year general obligation bond index if benefits are financed on a pay-as-you-go basis, and the expected return on trust assets if pre-funding assets are available to pay benefits.
- Development of an Annual OPEB Expense based on the normal cost plus an amortization of changes in the unfunded actuarial liability due to demographic experience, assumption changes, plan changes, and investment experience. Demographic experience and assumptions changes are amortized over the average remaining working lifetime of all participants, investment experience is amortized over five years, and plan changes are recognized immediately.

GASB Statement No. 75 is expected to increase the balance sheet liability because the entire unfunded actuarial liability is recognized on the balance sheet. In addition, the balance sheet liability is projected to be more volatile because the unfunded actuarial liability will be based on a blended discount rate that changes at each measurement date as the 20-year general obligation bond index changes.

The following section contains more background information on GASB Nos. 74 and 75.

## GASB Statements No. 74 and 75

On June 2, 2015, the GASB released two new accounting standards applicable to OPEB. GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, addresses reporting by OPEB plans that administer benefits on behalf of governments. GASB Statement No. 75,

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*Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, addresses reporting by governments who provide OPEB to their employees and for governments who finance OPEB for employees of other governments.

### **Statement No. 74**

Statement No. 74 replaces GASB Statement No. 43, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. Statement No. 74 addresses the financial reports of defined benefit OPEB plans that are administered through trusts that meet specified criteria.

The Statement requires a statement of fiduciary net position and a statement of changes in fiduciary net position. The Statement also requires more extensive note disclosures and Required Supplementary Information (RSI) relating to the measurement of the OPEB liabilities for which assets have been accumulated, including information about the annual money-weighted rates of return on plan investments.

Statement No. 74 is first effective for the plan year beginning July 1, 2016.

### **Statement No. 75**

Statement No. 75 replaces GASB Statement No. 45. Statement No. 75 requires governments to recognize an OPEB liability on the face of the financial statements.

Statement No. 75 requires governments to present more extensive note disclosures and Required Supplementary Information (RSI) about their OPEB liabilities. Among the new note disclosures is a description of the effect on the reported OPEB liability of using a discount rate and a healthcare cost trend rate that are one percentage point higher and one percentage point lower than assumed by the government. Also, the Statement changes the way in which the discount rate for a Plan that is being pre-funded is calculated. The new RSI includes a schedule showing the causes of increases and decreases in the Total OPEB liability and a schedule comparing a government's actual OPEB contributions to its contribution requirements.

Statement No. 75 is first effective for the fiscal year beginning July 1, 2017.

### **Impact of New Accounting Standards**

Under the new accounting standards, the annual expense and OPEB liability for plans funded on a pay-as-you-go basis will be more volatile because the discount rate used to develop the normal costs and actuarial accrued liability is based on a municipal bond index.

The municipal bond index rate is 3.62 percent as of June 30, 2018, and 3.13 percent as of June 30, 2019. Plan sponsors who partially pre-fund benefits must discount liabilities using a "blended discount rate" that reflects the municipal bond rate index if pre-funding assets are not available to pay benefits and the long-term expected return on assets if pre-funding assets are available to pay benefits.



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The State and employees in all bargaining units 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 6.75 percent per year over the long term.

As of June 30, 2019, total assets in the CERBT accounts, for 12 bargaining units, Judicial employees, and Exempt/Excluded/Executive employees, are approximately \$1.58 billion.

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.

### Plan Benefits

The State of California provides medical, prescription drug, and dental benefits (healthcare benefits) to retired statewide employees through a single-employer defined benefit plan. The State participates in the CERBT, an agent multiple-employer plan consisting of an aggregation of single-employer plans, including over 548 contributing employers.

The State also offers life insurance, long-term care and vision benefits to retirees; however, because these benefits are completely paid for by retirees, there is no GASB Statements No. 74 or 75 liability to the State on behalf of such benefits.

We are not aware of any other OPEB offered to statewide employees that are subsidized by the State of California, and subject to GASB Statements No. 74 and 75.

The State and employees in most bargaining units and Judicial employees have agreed to changes in benefits if an employee is hired after certain effective dates. The key benefit changes include:

- Reducing the "100/90" State contribution formula to "80/80";
- Grading the State contribution if the member has less than 25 years of Credited Service at retirement;
- For Medicare eligible members, eliminating the Medicare Part B subsidy; and
- For Medicare eligible members, developing the "80/80" State contribution based on the premium rates for only Medicare members.

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## Key Definitions

Following is a list of key terms used for the GASB Statements No. 74 and 75 actuarial valuations:

- 1) **Present value of future healthcare benefits** is the present value of benefits expected to be paid to current and future retirees.
- 2) **Actuarial Accrued Liability** or **Total OPEB Liability** is the present value of future retiree healthcare benefits attributable to employee service earned in prior fiscal years using the **Entry Age Normal Cost Method**.
- 3) **Normal Cost** or **Service Cost** is the present value of future benefits earned by employees during the current fiscal year.
- 4) **Actuarially Determined Contribution or ADC** equals the Normal Cost plus an amortization of the difference between the Actuarial Accrued Liability and any assets available to pay benefits.
- 5) **Plan Fiduciary Net Position** equals the market value of plan assets available to pay plan benefits.
- 6) **Net OPEB Liability** equals the difference between **Total OPEB Liability** and the **Plan Fiduciary Net Position**. The **Net OPEB Liability** is recognized directly on the plan sponsor's balance sheet.
- 7) **Annual OPEB Expense** equals:
  - a. **Service Cost**
  - b. Plus administrative costs
  - c. Plus interest on the **Total OPEB Liability**
  - d. Less member contributions
  - e. Less expected investment income
  - f. Plus the change in **Total OPEB Liability** due to changes in benefit provisions
  - g. Plus the amortization of the change in **Total OPEB Liability** due to non-investment experience
  - h. Plus the amortization of the change in **Total OPEB Liability** due to changes in assumptions
  - i. Plus the amortization of investment gains and losses
  - j. Plus other changes in the **Plan Fiduciary Net Position**
- 8) Changes in **Total OPEB Liability** due to non-investment experience or change in assumptions are amortized on a straight-line basis using the expected future working years including members who are inactive or retired.
- 9) Investment gains and losses are amortized using a five-year straight line period.
- 10) Changes in **Total OPEB Liability** due to plan changes are recognized immediately as a component of the **Annual OPEB Expense**.
- 11) **Deferred Inflows or Outflows** are based on the changes in **Net OPEB Liability** due to demographic experience, investment experience, or changes in assumptions that have not yet been recognized as a component of the **Annual OPEB Expense**.
- 12) **Blended Discount Rate** is based on a long-term municipal bond rate if assets are not available to pay benefits and the portfolio's long-term expected return on assets if assets are available to pay benefits.
- 13) The **Individual Entry Age Normal Cost Method** spreads costs as a level percentage of payroll.
- 14) Under a **Closed Group** actuarial cost method, actuarial present values associated with future entrants are not considered.

Please note that the Actuarially Determined Contribution (ADC) represents the annual employer contribution that along with member contributions and investment income is projected to fully fund the



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program over a reasonable period such as 30 years. The ADC is developed assuming the sponsor will: (i) make the targeted pre-funding contributions on a timely basis, (ii) contributions are deposited in an irrevocable qualified trust for the exclusive benefit of plan members, (iii) contributions in excess of the pay-as-you-go amount are invested in a diversified investment portfolio with a defined investment policy, and (iv) the discount rate used to develop the **Actuarial Accrued Liability** and **Normal Cost** recognizes the expected return of the entire portfolio.

The **Annual OPEB Expense** is used solely for accounting under GASB No. 75 and is not appropriate for developing the employer's pre-funding contribution amount such as the ADC. The **Annual OPEB Expense** is not a good proxy for the ADC because the GASB Statement No. 75 amortization and **Blended Discount Rate** requirements will produce too much volatility.

Based on the State's funding policy, we understand the goal is to make additional normal cost contributions in excess of the pay-as-you-go contributions, for each respective actuarial valuation group, such that the program is projected to be fully funded in approximately 30 years. As of June 30, 2019, 15 out of 17 membership groups or approximately 81 percent of the active covered members have entered into pre-funding arrangements with the State.

For GASB Statements No. 74 and 75 reporting purposes, if the membership group has not entered into a pre-funding arrangement with the State, we assumed a discount rate of 3.13 percent, which is equal to municipal bond rate at June 30, 2019. For membership groups with pre-funding arrangements, we assumed a blended discount reflecting the municipal bond rate of 3.13 percent if pre-funding assets are not available to pay benefits and 6.75 percent if pre-funding assets are available to pay benefits.

Other key assumptions such as healthcare inflation, projected healthcare claims, the likelihood an employee retires, elects healthcare coverage and survives after retirement will also have an impact on costs. The Current Overview section of the report provides more details on other actuarial valuation assumptions.

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The following table shows key valuation results as of June 30, 2019, and June 30, 2018.

KEY VALUATION RESULTS (\$ IN 000'S)		
GASB No. 75	June 30, 2019	June 30, 2018
Total OPEB Liability	\$ 93,511,969	\$ 86,469,239
Net Fiduciary Position	\$ 1,583,373	\$ 874,286
Net OPEB Liability	\$ 91,928,596	\$ 85,594,953
Service Cost	\$ 3,158,693	\$ 3,477,466
Annual OPEB Expense	\$ 3,726,301	\$ 3,934,608
Employer Contribution	\$ 2,965,538	\$ 2,534,168
Total Actuarially Determined Contribution (ADC)	\$ 4,905,408	\$ 4,672,787

### Basis of Actuarial Valuation

The preceding actuarial valuation results were based on:

- The provisions of GASB Statements No. 74 and 75.
- The provisions of Actuarial Standard of Practice No. 6, *Measuring Retiree Group Benefit Obligations*.
- Census information as of June 30, 2019, provided by the California Public Employees Retirement System (CalPERS) and the California Department of Human Resource (CalHR).
- Claims, enrollment data, and average costs provided by CalPERS and CalHR for the period from January 1, 2016, to May 31, 2019.
- Premium data through calendar year 2020, provided by CalPERS and CalHR.
- Employer Group Waiver Plan (EGWP) information provided by CalPERS.
- Medicare Advantage design and premium rate information provided by CalPERS.
- Plan information provided by CalPERS and CalHR.
- Demographic actuarial assumptions consistent with those that will be used in the 2019 actuarial valuations of the CalPERS statewide pension programs.
- Healthcare related actuarial valuation assumptions such as healthcare plan participation, coverage and continuance, aging factors, adjustments for disabled members, and adjustments for children of current retirees and survivors are based on the experience study for the period from July, 1, 2014, to June 30, 2018, first effective with the actuarial valuation as of June 30, 2019.
- Effective as of June 30, 2019, the full-funding discount rate and long-term expected return on assets was changed from 7.00 percent to 6.75 percent, the general inflation assumption was changed from 2.50 percent to 2.25 percent, and the wage inflation assumption was changed from 2.75 percent to 2.50 percent.

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- Other healthcare, economic, and demographic assumptions such as the discount rate, healthcare inflation, healthcare claim costs, and healthcare plan participation are based on recommendations from Gabriel, Roeder, Smith & Company as approved by the SCO.
- Effective as of July 1, 2018, actuarial costs for members in the Service Employee International Union (bargaining units 1, 3, 4, 11, 14, 15, 17, 20, and 21) are based on one combined actuarial valuation group.
- Effective as of July 1, 2018, the actuarial valuation reflects a pre-funding policy for the Exempt, Excluded and Executive actuarial valuation group.
- Effective as of June 30, 2018, the basis used to allocate total pay-as-you-go employer contribution by actuarial valuation group was changed from an expected benefit payments to number of retirees.
- The latest developments in Federal healthcare reform.
- For purposes of developing the ADC, the Unfunded Actuarial Accrued Liability (UAAL) is amortized over a 30-year closed period from June 30, 2017, as a level percent of pay.

The actuarial valuation was prepared under the supervision of Members of the American Academy of Actuaries who satisfy the Qualification Standards of the American Academy of Actuaries to render an actuarial opinion on the actuarial valuation of retiree healthcare benefits.

The remainder of the report is an integral component of the actuarial valuation and includes:

- An overview of the current GASB Statements No. 74 and 75 requirements in effect on June 30, 2019.
- The basis of the actuarial assumptions and methods used in this actuarial valuation.
- Development of the ADC by actuarial valuation group using a full-funding rate of 6.75 percent.
- GASB No. 74 information applicable to the plan's fiscal year end June 30, 2019.
- GASB No. 75 information applicable to the sponsor's fiscal year end June 30, 2020.
- Additional details on the census, plan provisions, assumptions and methods used to prepare the actuarial valuation.

# SECTION A

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## CURRENT OVERVIEW

### Summary of GASB Accounting Standards

#### Accounting Standard

For other postemployment benefit (OPEB) plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 74, “Financial Reporting for Postemployment Benefit Plans other than Pension Plans,” replaced the requirements of GASB Statement No. 43, “Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans.” GASB Statement No. 74 establishes standards of financial reporting for separately issued financial reports of state and local government OPEB plans.

GASB Statement No. 75 replaced the requirements of Statements No. 45, Accounting and Financial Reporting by Employers for Postemployments Benefits Other Than Pensions, as amended, and No. 57, OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans, for OPEB.

GASB Statements No. 74 and 75 are effective for fiscal years beginning after June 15, 2016, and June 15, 2017, respectively.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain non-actuarial information, such as notes regarding accounting policies and investments, is not included in this report. As a result, the plan sponsor will be responsible for preparing and disclosing the non-actuarial information needed to comply with these accounting standards.

#### Plan Financial Statements

GASB Statement No. 74 requires defined benefit OPEB plans which are administered as trusts or equivalent arrangements to present two financial statements: a statement of fiduciary net position and a statement of changes in fiduciary net position. The statement of fiduciary net position presents the assets and liabilities of the OPEB plan at the end of the OPEB plan’s reporting period. The statement of changes in fiduciary net position presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expense, and net increase or decrease in the fiduciary net position.

GASB Statement No. 75 requires state and local government employers to recognize the Net OPEB Liability and the Annual OPEB Expense on their financial statements, and disclose deferred outflows and inflows for changes in Net OPEB Liability not recognized in the Annual OPEB Expense. The Net OPEB Liability is the difference between the Total OPEB Liability and the plan’s fiduciary net position. In traditional actuarial terms, this is analogous to the actuarial accrued liability less the market value of assets.

The Annual OPEB Expense equals the Service Cost, less member contributions less the expected return on assets plus an amortization of changes in the Net OPEB liability due to demographic experience, investment performance, assumption changes, and plan changes.

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The GASB Statement No. 74 information contained in this report is based on an actuarial valuation date of June 30, 2019, and a measurement date of June 30, 2019.

For GASB Statement No. 75 reporting purposes, the plan sponsor's financial reporting for fiscal year end June 30, 2020, will be based on a measurement date of June 30, 2019.

GASB Statement No. 75 requires that employer contributions made to the OPEB plan subsequent to the measurement date and before the end of the employer's reporting period should be reported as a deferred outflow of resources.

The information contained in this report does not incorporate any employer contributions made subsequent to the measurement date of June 30, 2019.

### Notes to Financial Statements

GASB Statement No. 75 requires the notes of the employer's financial statements to disclose the annual OPEB expense, the OPEB plan's liabilities and assets, and deferred outflows and inflows of resources related to OPEB.

GASB Statement Nos. 74 and 75 require the notes of the financial statements for the Plan and Plan Sponsor to include certain additional information. The list of disclosure items should include:

- The name of the OPEB plan, the administrator of the OPEB plan, and the identification of whether the OPEB plan is a single-employer, agent, or cost-sharing OPEB plan;
- A description of the benefits provided by the plan;
- A brief description of changes in benefit terms or assumptions that affected the measurement of the total OPEB liability since the prior measurement date;
- The number of plan members by category and if the plan is closed;
- A description of the plan's funding policy, including member and employer contribution requirements;
- The OPEB plan's investment policies;
- The OPEB plan's fiduciary net position and the net OPEB liability;
- The impact to net OPEB liability of changing the discount rate by one percentage point;
- The impact to the net OPEB liability of changing the healthcare trend rate by one percentage point;
- Significant assumptions and methods used to calculate the total OPEB liability;
- Inputs to the discount rates; and
- Certain information about mortality assumptions and the dates of experience studies.

OPEB plans that are administered through trusts or equivalent arrangements are required to disclose additional information in accordance with GASB Statement No. 74. This information includes:

- The composition of the OPEB plan's Board and the authority under which benefit terms may be amended;
- A description of how fair value is determined;



## Current Overview

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- Information regarding certain reserves and investments, including concentrations of investments greater than or equal to 5 percent, receivables, and insurance contracts excluded from plan assets; and
- Annual money-weighted rate of return.

### Required Supplementary Information

GASB Statement No. 74 requires a 10-year fiscal history of:

- Sources of changes in the net OPEB liability;
- Information about the components of the net OPEB liability and related ratios, including the OPEB plan's fiduciary net position as a percentage of the total OPEB liability, and the net OPEB liability as a percent of covered-employee payroll;
- Comparison of the actual employer contributions to the actuarially determined contributions, if applicable, based on the plan's funding policy; and
- For plans with an actuarially determined contribution, the schedule covering each of the 10 most recent fiscal years of the actuarially determined contribution, contributions to the OPEB plan, and related ratios.

### Frequency and Timing of the Actuarial Valuation

An actuarial valuation to determine the total OPEB liability is required to be performed at least once every two years. For the employer's financial reporting purposes, the net OPEB liability and OPEB expense should be measured as of the employer's "measurement date," which may not be earlier than the employer's prior fiscal year end-date. If the actuarial valuation used to determine the total OPEB liability is not calculated as of the measurement date, the total OPEB liability is required to be rolled forward from the actuarial valuation date to the measurement date.

### Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on OPEB plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits), and (2) a tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

The tax-exempt municipal bond rate was based on Fidelity's "20-Year Municipal GO AA Index" as of each measurement date. This index represents fixed-income municipal bonds with 20 years to maturity and is constructed using option-adjusted analytics for a diverse group of 10,000 tax-exempt securities. The Fidelity Index rates are 3.62 percent as of June 30, 2018, and 3.13 percent as of June 30, 2019.

### Actuarial Assumptions

The actuarial assumptions used to value the actuarial liabilities are outlined in detail in Sections E and F. The actuarial assumptions include healthcare related assumptions such as: trend rates, participation



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rates, and per capita claim costs, and pension related assumptions such as: termination rates, disability rates, retirement rates, and mortality rates.

The healthcare related assumptions are based on an Experience Review for the period July 1, 2014, to June 30, 2018, performed by GRS and were first adopted beginning with the June 30, 2019, actuarial valuation. The pension related assumptions are based on an Experience Review performed by CalPERS and were first adopted beginning with the June 30, 2018, actuarial valuation.

Following is a summary of the key changes in assumptions:

- **Full-funding discount rate** – Decrease 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** – Decrease the price inflation assumption from 2.50 percent to 2.25 percent and decrease the wage inflation assumption from 2.75 percent to 2.50 percent.
- **Health cost and premium increases** – Continue 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** – Increase the excise tax trend adjustment from 0.14 percent to 0.18 percent.
- **Participation election percentage** – Update these assumptions based on the experience of the plan.
- **Percentage of disabled members eligible for Medicare benefits** – Update this assumption based on the experience of the plan.
- **Coverage and continuance assumptions** – Maintain the current assumption.
- **Aging factors** – Update these factors based on more recent gross claims data.
- **Aged per capita claim cost based on updated aging factors – medical and prescription** – Update the per capita claims costs based on the recommended aging factors.
- **Adjustments for disabled members** – Slightly lower the load applied to the expected claims for disabled members.
- **Adjustments for children of current retirees and survivors** – Update the load applied to the expected claims to account for children of current retirees and survivors.
- **Per capita claim cost – dental** – Maintain the current assumption.
- **Medicare Part B premiums** – Maintain the current assumption.
- **Employer Group Waiver Plan** – Decrease the EGWP trend adjustment factors applied to Medicare claims.
- **Data processing assumptions** – Continue to review 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.

### Future Uncertainty or Risk

Future results may differ from those anticipated in this actuarial valuation. Reasons include, but are not limited to:

- Claims experience differing from expected;
- Medical trend experience differing from expected;
- Changes in the healthcare plan designs offered to active and retired members;
- Changes in healthcare related costs due to recent experience; and
- Participant behavior differing from expected; e.g.,
  - Elections at retirement;
  - One-person versus two-person coverage elections; and
  - Timing of retirement or termination.

### Benefits Valued

The benefit provisions that were valued are described in Section C. The actuarial valuation is required to be performed on the current benefit terms and existing legal agreements. Consideration is to be given to the written plan document as well as other communications between the employer and plan members and an established pattern of practice for cost sharing. The summary of major plan provisions is designed to outline principal plan benefits.

### Assumptions and Methods Impacting the Actuarial Valuation

#### Healthcare Related Assumption Changes

GRS performed a review of the healthcare related actuarial assumptions used to value the actuarial liabilities associated with the retiree healthcare benefits provided to statewide employees through the programs sponsored by the State of California as administered by CalPERS and CalHR. The primary purpose of the study was to determine the continued appropriateness of certain healthcare related actuarial assumptions by comparing actual experience to expected experience. The study was based on healthcare census information; claims experience data and actuarial valuations for the period from July 1, 2014, to June 30, 2018. The actuarial assumptions determined by this study were first used for the GASB Statements No. 67 and 68 actuarial valuations effective as of June 30, 2019. For the actuarial valuation as of June 30, 2019, assumptions, including per capita healthcare cost and healthcare trend rates, were updated based on experience through June 30, 2019.

#### ***Discount Rate Assumption***

The discount rate assumption depends on the purposes of the measurement.

The sponsor's pre-funding policy provides for a 50 percent cost sharing of the normal cost, between active members and the plan sponsor, graded over several years since the adoption of the pre-funding policy. Pre-funding normal cost contributions are deposited into the CERBT and are expected to earn 6.75 percent per year. Pre-funding normal costs and investment income are not available to pay benefits until the earlier of 2046 or the year that the total actuarial liability is fully funded. The sponsor finances benefits on a pay-as-you-go basis prior to the year that pre-funding assets are available to pay benefits. For purposes of developing the full-funding normal cost, actuarial liability and actuarially determined contribution, a discount rate of 6.75 percent was used.

The discount rate used to develop the GASB Nos. 74 and 75 Total OPEB Liability and Service Cost was based on a blended rate for each respective actuarial valuation group comprised of 3.13 percent if pre-funding assets are not available to pay benefits and 6.75 percent if pre-funding assets are available to pay benefits.

#### ***Healthcare Trend Assumptions***

One of the key assumptions influencing costs is the assumed growth or trend in healthcare costs. The healthcare trend assumption for OPEB actuarial valuations spans over the lifetime of a covered retiree, which could extend to over 30 years. This is in contrast to the short-term healthcare inflation used to develop premiums for the next fiscal year. This long-term healthcare assumption is by far the most difficult to set.

Actuaries generally compare the growth in general inflation, wages, healthcare costs, and other goods and services when setting the healthcare trend assumption. For example, the actuary may compare the historical experience of national healthcare expenditures to the Gross Domestic Product (GDP). Healthcare inflation may be expressed as general inflation plus a component for healthcare costs.

## Current Overview

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The long-term healthcare trend is generally lower than the short-term healthcare trend used to update premiums and expected claims in the following fiscal year because such short-term increases are generally not sustainable in the long term. That is, if healthcare benefit costs are assumed to increase by 9.00 percent per year in the long term while the cost for other goods and services increase at a rate less than 3.00 percent per year, then in the long run the general economy would include a disproportionate share of expenditures allocated to healthcare benefits. Consequently, long-term retiree healthcare actuarial models generally assume that the initial trend rate will eventually grade down to a more sustainable level. For this valuation, the 2020 trend rates are based on actual premium increases from calendar 2019 to 2020. Based on a review of supporting documentation provided by CalPERS and a review of various publically available trend studies, the 2020 trend rate for the PPO per capita claims costs is assumed to be 4.00 percent for Pre-Medicare costs and 4.00 percent for Post-Medicare costs. For 2021 and beyond we assumed an initial healthcare trend rate of 7.50 percent for Pre-Medicare and Post-Medicare costs, decreasing each year over the next six years to a rate of 4.50 percent, remains at 4.50 percent for ten years until the ultimate rate of 4.25 percent is reached in 2037.

### ***Adjustments to Estimate the Potential Impact of the Employer Group Waiver Plan (EGWP)***

Effective January 1, 2013, prescription benefits for certain Medicare eligible members are provided through an Employer Group Waiver Plan (EGWP) with a “Wrap” feature. The EGWP design is based on a federally approved drug formulary and plan design. A sponsor may provide additional benefits through a supplementary “Wrap” plan that ensures members will receive benefits that are relatively equal to those of the plan that the sponsor currently offers. In most instances, the current plan benefit design can be replicated through the combination of an EGWP-Wrap plan at reduced costs. The key components which are expected to reduce costs include:

- 1) Seventy-five percent discount on brand name drugs while member is in the “donut hole” coverage gap. Under a standard or model Medicare Part D program, a member is responsible for 100 percent of the prescription costs from the initial coverage limit (\$3,820 for 2019) to the catastrophic coverage limit (\$7,654 for 2019). This coverage gap is also known as the “donut hole.” The discount is also applied to the member’s true out of pocket costs which allows federal catastrophic coverage to be reached sooner.
- 2) The “donut hole” coverage gap is reduced ratably and completely eliminated by 2019.
- 3) As the coverage gap diminishes, the sponsor’s “Wrap” supplemental benefits within the “donut hole” decreases.
- 4) Federal prescription drug subsidies must be used to reduce the cost of providing benefits to Medicare eligible members, resulting in lower premium rates. This feature allows the sponsor to reflect certain EGWP-Wrap savings in the OPEB actuarial valuation.

Based on updated data from CalPERS, the remaining savings as of June 30, 2019, attributable to the EGWP-Wrap design feature is approximately 20 percent of average costs for PERSCare, 24 percent of average costs for PERS Choice, and 15 percent for HMO plans. In our actuarial valuation, EGWP based savings are assumed to gradually wear away over the next seven years to an ultimate savings level of 14 percent of average costs for PERSCare, 17 percent of average costs for PERS Choice, and 10 percent of average costs for HMO plans.

## Current Overview

### ***Adjustments to Estimate the Impact of Excise Tax under Healthcare Reform***

Beginning in 2022, the Patient Protection and Affordable Care Act (PPACA) imposes a 40 percent excise 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 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 excise tax include medical, prescription and employer Health Savings Accounts and Health Reimbursement Accounts.

For the actuarial valuation as of June 30, 2019, the impact of the excise 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 actuarial valuation trend rate;
- 3) Projecting the statutory limits assuming an inflation rate of 3.0 percent;
- 4) Estimating the projected excise tax based on the projected average costs and statutory limits;
- 5) Assuming the plan sponsor would subsidize the excise tax and no additional costs would be passed to plan members; and
- 6) Developing an adjusted trend rate, applied to the explicit costs, to approximate the impact of the additional excise tax costs.

Based on the preceding method, 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 plan year end 2023 through 2036 and 4.43 percent beginning in 2037 and thereafter.

The H.R. 1865, *Further Consolidated Appropriations Act, 2020*, enacted to fund the federal government through fiscal year 2020 included, among other provisions, a repeal of excise taxes on three key revenue provisions affecting health care 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 Cadillac Tax was originally scheduled to take effect for 2018. It was delayed twice, most recently until 2022, and is now permanently repealed. The repeal is effective for taxable years beginning after December 31, 2019, and will be removed in the June 30, 2020, actuarial valuation.

## Current Overview

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### ***Participation Assumption***

Another key assumption influencing costs is 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. For this actuarial valuation, we have defined participation rates that depend on the portion of the total premium paid by the State. On average, approximately 95 percent of all eligible retirees elect healthcare coverage.

### ***Other Demographic Assumptions***

Demographic assumptions are used to determine the likelihood an active member will retire, survive, and receive benefits. Assumptions relating to termination, disability, retirement, and mortality were based on the same assumptions used by CalPERS to develop costs for pension benefits. We reviewed the CalPERS assumptions for reasonableness and consistency.

### ***Retiree Per Capita Claim Costs and the Implicit Rate Subsidy***

A retiree healthcare actuarial valuation depends on the retired member's expected healthcare claim at a given age indexed for healthcare inflation. Average healthcare costs are generally developed using the experience of the group, and are adjusted for the retired member's age based on standard morbidity tables or group specific morbidity for very large groups.

The employer's net cost for a given member in a given year equals the expected age-adjusted annual claims cost less the member's annual contribution. Retired members not eligible for Medicare who are charged a premium based on the experience of both active and retired members will be receiving a subsidy because the average healthcare costs of retired members is generally higher than the blended average costs of a group comprised of both active and retired members. This subsidy is referred to as the *implicit rate subsidy*, and is a major contributor to the OPEB costs. The portion of the blended average costs paid by the employer is referred to as the *explicit rate subsidy*, and also directly impacts OPEB costs.

The employer's estimated explicit and implicit costs are shown on page 21 of the actuarial valuation report and are based on first year projected costs generated from the actuarial valuation. For purposes of financial reporting, estimated explicit and implicit costs will be updated based on actual premium and claim experience. These estimates could change primarily due to: (i) differences between expected and actual number of non-Medicare retirees and dependents, (ii) changes in age and gender profile of non-Medicare retiree and dependents, (iii) differences between expected and actual trend during the year on premiums and claims, (iv) migration between non-Medicare plans, and (v) updates to the age and gender factors.

### ***Actuarial Cost Method***

Actuarial valuation results, used for accounting purposes, such as the Total OPEB Liability and Service Cost were developed using the Entry Age Normal Actuarial Cost Method and the blended discount rates as required by GASB Statements No. 74 and 75. The Normal Cost and Actuarial Accrued Liability for purpose



## Current Overview

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of calculating the Actuarially Determined Contribution were developed using the Entry Age Normal Actuarial Cost Method and a full-funding discount rate of 6.75 percent.

### ***Closed Versus Open Group Valuation***

The development of the Actuarially Determined Contribution and the measurement of the Actuarial Accrued Liability and Total OPEB Liability were based on a “closed group” valuation. A closed group valuation produces assets, liabilities, and costs for the current and future fiscal years without considering how future new hires may influence costs. An open group valuation considers the impact of future new hires and is a useful tool to evaluate the impact of future potential changes in demographics, benefit design, assumptions, funding policies, or the budgetary impact of the OPEB programs.

The following section contains a reconciliation of the actuarial accrued liability since the last actuarial valuation and a summary of key valuation results as of June 30, 2019.



## **SECTION B**

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### **SUMMARY OF ACTUARIAL VALUATION RESULTS**

# Actuarial Valuation Results

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## Reconciliation of the Total OPEB Liability

The table on the following page shows a reconciliation of the total OPEB liability from June 30, 2018, to June 30, 2019, based on the GASB Statements No. 74 and 75.

The total OPEB liability increased from \$86.47 billion as of June 30, 2018, to \$93.51 billion as of June 30, 2019. If the plan's assumptions had been exactly realized during the year and no assumption changes were made, the total OPEB liability would have increased to \$90.79 billion as of June 30, 2019. The key factors contributing to the unexpected increase in total OPEB liability of \$2.72 billion include:

- The consolidation of the SEIU bargaining units increased the total OPEB liability by \$0.09 billion.
- Demographic experience increased the expected actuarial liabilities by 0.7 percent or \$0.59 billion. Examples of demographic experience losses include: more members retiring than assumed, members retiring earlier than assumed and members living longer than assumed. During the year, the number of retirees increased by 2.7 percent from 187,622 at June 30, 2018, to 192,701 at June 30, 2019, and the number of active members increased by 1.6 percent from 272,078 to 276,317, which are key reasons for the demographic loss.
- During the year, favorable healthcare claims experience and plan design changes decreased the expected total OPEB liability by approximately 2.2 percent or \$1.99 billion. This change in total OPEB liability is mainly driven by the relationship between the assumed trend rate used to project average member claims cost in 2019 (used in last year's actuarial valuation) and the actual trend rate for 2019 (used to update average per member claim costs). During plan year end June 30, 2019, average per member claim costs were lower than assumed.
- The healthcare related assumptions were updated based on the 2018 Experience Review for the Years July 1, 2014, to June 30, 2018, conducted by GRS which includes rates of decrement, salary increase rates, and economic assumptions. These assumption changes increased expected total OPEB liability by 0.4 percent or \$0.36 billion.
- Each year, as part of the actuarial valuation process, the trend rates are evaluated and updated based on a review of supporting documentation provided by CalPERS and a review of various publicly available trend studies. We continue to use a select and ultimate trend assumption and the most recent premium information available at the time of the actuarial valuation. Trend rates for the June 30, 2019, actuarial valuation were reviewed and updated since the last actuarial valuation. The trend rates are assumed to begin in plan year 2021 at 7.50 percent for pre-Medicare and post-Medicare coverage and gradually decrease to 4.50 percent in 2036 and then decrease to an ultimate rate of 4.25 percent beginning in 2037. This assumption change decreased expected total OPEB liability by approximately 2.3 percent or \$2.07 billion.
- Changing the GASB Statements No. 74 and 75 blended discount rate as of June 30, 2018, which ranged from 3.62 percent to 4.28 percent, to the blended discount rate as of June 30, 2019, which ranges from 3.13 percent to 3.85 percent, increased the total OPEB liability by 6.6 percent or \$5.73 billion.

## Actuarial Valuation Results

The table below shows the reconciliation of the total OPEB liability.

<b>CALIFORNIA STATE EMPLOYEES</b> <b>OPEB ACTUARIAL VALUATION RESULTS AS OF JUNE 30, 2019 (\$ in '000s)</b> <b>BASED on GASB Statements No. 74 and 75 Discount Rate</b> <b>(GAIN)/LOSS ANALYSIS</b>	
Total OPEB Liability as of June 30, 2018	\$ 86,469,239
Service Cost for 18/19	3,158,693
Actual Benefit Payments	(2,345,512)
Interest	<u>3,510,048</u>
Expected Total OPEB Liability as of June 30, 2019	\$ 90,792,468
(Gain)/Loss Items	
Consolidation of SEIU Group	\$ 88,691
Demographic Experience	593,882
Healthcare Claims Experience	(1,987,308)
Change in Healthcare Related Assumptions due to 2018 Experience Review	361,213
Change in Healthcare Related Assumptions	(2,068,392)
Change in GASB 74/75 Blended Discount Rate	<u>5,731,415</u>
Total	\$ 2,719,501
Total OPEB Liability as of June 30, 2019	\$ 93,511,969

The following table shows key actuarial valuation results by group.

# Actuarial Valuation Results

JUNE 30, 2019 ACTUARIAL VALUATION SUMMARY (\$ IN 000's)											
	FY 2019			Full-funding Discount Rate			GASB No. 74 and 75				
	Assets 6/30/2019	PAYGO Contributions	Pre-Fund Contributions	Normal Cost	Actuarial Liability	Net Employer ADC	Blended Discount Rate	Service Cost	Total OPEB Liability	Net OPEB Liability	Annual OPEB Expense
Actuarial Valuation Group											
Attorneys and Hearing Officers (BU2)	33,800	30,621	13,778	21,055	826,198	59,645	3.711%	44,164	1,254,842	1,221,042	51,436
Highway Patrol (BU5)	416,319	78,501	61,510	67,142	3,250,193	229,183	3.851%	140,545	5,181,801	4,765,482	258,649
Corrections (BU6)	579,048	294,213	213,184	237,663	10,082,913	676,241	3.726%	503,829	15,983,539	15,404,491	599,119
Protective Services and Public Safety (BU7)	72,366	73,353	26,632	47,137	2,036,875	144,709	3.654%	101,132	3,198,846	3,126,480	113,092
Firefighters (BU8)	42,232	40,965	27,543	42,921	1,544,164	114,928	3.776%	95,936	2,464,725	2,422,493	136,182
Professional Engineers (BU9)	84,788	84,522	26,622	57,163	2,788,968	194,353	3.586%	127,060	4,363,691	4,278,903	116,551
Professional Scientific (BU10)	23,658	23,092	8,886	16,753	673,844	48,611	3.690%	35,836	1,043,568	1,019,910	45,881
Craft and Maintenance (BU12)	63,867	120,833	32,536	60,360	2,757,778	198,316	3.604%	129,311	4,220,828	4,156,961	120,217
Stationary Engineers (BU13)	5,437	10,957	3,584	5,409	274,898	19,190	3.516%	11,434	424,157	418,720	8,111
Physicians, Dentists, and Podiatrists (BU16)	26,676	18,674	10,962	10,528	373,439	25,608	3.772%	19,868	536,023	509,347	12,277
Psychiatric Technicians (BU18)	26,827	60,499	17,651	34,393	1,349,708	99,106	3.705%	75,099	2,113,325	2,086,498	88,212
Health and Social Services/Professional (BU19)	29,723	42,720	19,360	31,247	1,000,740	76,496	3.757%	63,722	1,514,612	1,484,889	72,744
California State University	-	381,303	-	266,289	8,858,804	786,426	3.130%	603,049	14,498,545	14,498,545	714,217
Judicial Branch	20,165	11,534	7,868	8,101	333,408	22,423	3.724%	16,635	505,429	485,264	18,153
Exempt/Excluded/Executive	6,855	51,792	6,486	26,855	1,310,455	96,636	3.568%	64,676	2,049,430	2,042,575	64,655
Other	-	165,439	-	20,836	1,754,067	191,394	3.130%	48,033	2,561,252	2,561,252	44,349
Service Employees International Union (SEIU)	151,612	856,494	143,424	488,072	20,213,708	1,543,231	3.604%	1,078,364	31,597,356	31,445,744	1,262,456
Total	\$ 1,583,373	\$ 2,345,512	\$ 620,026	\$ 1,441,924	\$ 59,430,160	\$ 4,526,496		\$ 3,158,693	\$ 93,511,969	\$ 91,928,596	\$ 3,726,301

Detailed actuarial valuation results by group are provided in Appendix B of this report.

# Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>TOTAL OF ALL ACTUARIAL VALUATION GROUPS</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	272,078	276,317
Retired Participants <sup>a</sup>	<u>187,622</u>	<u>192,701</u>
Total Participants	459,700	469,018
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 36,896,456	\$ 37,370,952
Retired Participants	<u>32,546,122</u>	<u>35,546,649</u>
Total Participants	\$ 69,442,578	\$ 72,917,601
Actuarial Accrued Liability		
Active Participants	\$ 23,577,036	\$ 23,883,511
Retired Participants	<u>32,546,122</u>	<u>35,546,649</u>
Total Participants	\$ 56,123,158	\$ 59,430,160
Actuarial Value of Assets	\$ 874,286	\$ 1,583,373
Unfunded Actuarial Accrued Liability	\$ 55,248,872	\$ 57,846,787
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 1,434,214	\$ 1,441,924
Administrative Expenses	5,688	6,252
Amortization of UAAL	<u>3,232,885</u>	<u>3,457,232</u>
Total ADC	\$ 4,672,787	\$ 4,905,408
Estimated Member Contributions	<u>(240,706)</u>	<u>(378,912)</u>
Net Employer ADC	\$ 4,432,081	\$ 4,526,496
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 1,576,478	\$ 1,642,670
Part B Reimbursement	281,265	306,360
Dental Claims	<u>114,181</u>	<u>120,371</u>
Total	\$ 1,971,924	\$ 2,069,401
Employer Implicit Costs	<u>302,137</u>	<u>432,398</u>
Total Employer Costs	\$ 2,274,061	\$ 2,501,799
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 93,379	\$ 91,499
Dental Claims	<u>30,449</u>	<u>31,211</u>
Total	\$ 123,828	\$ 122,710
Total Claims Costs	\$ 2,397,889	\$ 2,624,509

<sup>a</sup>Retired participants with dental only coverage, 11,459 as of July 1, 2018, and 11,819 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



## Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) TOTAL OF ALL ACTUARIAL VALUATION GROUPS			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 4,009,501	\$ 3,477,466	\$ 3,158,693
Interest on Total OPEB Liability	3,249,843	3,659,659	3,510,048
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(7,189,638)	(1,393,426)
Changes of Assumptions	(9,830,478)	(2,739,427)	4,112,927
Benefit Payments	(2,118,695)	(2,246,439)	(2,345,512)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (4,689,829)</b>	<b>\$ (5,038,379)</b>	<b>\$ 7,042,730</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 96,197,447</b>	<b>\$ 91,507,618</b>	<b>\$ 86,469,239</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 91,507,618</b>	<b>\$ 86,469,239</b>	<b>\$ 93,511,969</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 2,118,695	\$ 2,246,439	\$ 2,345,512
Employer Pre-Funding Contributions	271,114	171,669	336,826
Active Member Contributions	39,362	116,061	283,202
Net Investment Income	42,292	48,098	89,940
Benefit Payments	(2,118,695)	(2,246,439)	(2,345,512)
Administrative Expense	(165)	(350)	(251)
Other	(290)	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ 352,313</b>	<b>\$ 335,478</b>	<b>\$ 709,717</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ 147,722</b>	<b>\$ 538,808</b>	<b>\$ 873,656</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 500,035</b>	<b>\$ 874,286</b>	<b>\$ 1,583,373</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 91,007,583</b>	<b>\$ 85,594,953</b>	<b>\$ 91,928,596</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.546%</b>	<b>1.011%</b>	<b>1.693%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 4,506,153</b>	<b>\$ 4,565,820</b>	<b>\$ 4,389,585</b>
<b>Employer Contribution</b>	<b>\$ 2,389,810</b>	<b>\$ 2,418,108</b>	<b>\$ 2,682,338</b>
<b>Percentage of ADC made by Employer</b>	<b>53%</b>	<b>53%</b>	<b>61%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (2,116,343)</b>	<b>\$ (2,147,712)</b>	<b>\$ (1,707,247)</b>
<b>Expected Return on Assets</b>	<b>\$ 24,862</b>	<b>\$ 49,503</b>	<b>\$ 82,480</b>
<b>Investment (Gain)/Loss</b>	<b>\$ (17,427)</b>	<b>\$ 1,405</b>	<b>\$ (7,460)</b>
<b>Average Expected Remaining Service</b>	<b>From 2.607026 to 9.568629</b>	<b>From 2.749775 to 9.781090</b>	<b>From 2.965309 to 8.815624</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>From 2.850% to 3.672%</b>	<b>From 3.560% to 4.219%</b>	<b>From 3.620% to 4.282%</b>
<b>Blended Discount Rate End of Year</b>	<b>From 3.560% to 4.219%</b>	<b>From 3.620% to 4.282%</b>	<b>From 3.130% to 3.851%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>



# Actuarial Valuation Results

<b>GASB NOS. 74 AND 75 DISCLOSURES</b> <b>OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S)</b> <b>TOTAL OF ALL ACTUARIAL VALUATION GROUPS</b>		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 3,477,466	\$ 3,158,693
Interest on the Total OPEB Liability	3,659,659	3,510,048
Current-Period Benefit Changes	-	-
Active Member Contributions	(116,061)	(283,202)
Projected Earnings on Plan Investments	(49,503)	(82,480)
Operating Expenses	350	251
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(1,091,995)	(1,283,896)
Recognition of Outflow/(Inflow) due to Assumption Changes	(1,942,105)	(1,288,417)
Recognition of Outflow/(Inflow) due to Investment Experience	(3,203)	(4,696)
<b>Net OPEB Expense</b>	<b>\$ 3,934,608</b>	<b>\$ 3,726,301</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 90,968,810</b>	<b>\$ 85,595,583</b>
OPEB Expense	3,934,608	3,726,301
Employer Contributions	(2,418,108)	(2,682,338)
Change in Outflow/(Inflow) due to Non-investment Experience	(6,097,643)	(109,530)
Change in Outflow/(Inflow) due to Assumption Changes	(797,322)	5,401,344
Change in Outflow/(Inflow) due to Investment Experience	4,608	(2,764)
<b>Net OPEB Liability End of Year</b>	<b>\$ 85,594,953</b>	<b>\$ 91,928,596</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (6,097,644)	\$ (6,302,117)
Assumption Changes	\$ (9,097,746)	\$ (7,224,812)
Investment Experience	\$ (11,071)	\$ (14,561)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ 94,943
Assumption Changes	\$ 3,784	\$ 3,532,192
Investment Experience	\$ 1,737	\$ 2,463
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate and Trend Rates	\$ 85,594,953	\$ 91,928,596
Increase Discount Rate by One Percentage Point	\$ 73,281,736	\$ 78,577,547
Decrease Discount Rate by One Percentage Point	\$ 101,103,828	\$ 108,767,242
Increase Trend Rate by One Percentage Point	\$ 99,687,229	\$ 110,170,617
Decrease Trend Rate by One Percentage Point	\$ 74,577,761	\$ 77,734,902

## SECTION C

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### SUMMARY OF THE CURRENT SUBSTANTIVE PLAN PROVISIONS



# Summary of the Current Substantive Plan Provisions

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## Eligibility Requirements

### Health Care Coverage

#### Retired Employees

A member is eligible to enroll in a CalPERS health plan if he or she retires within 120 days of separation from employment, was eligible for health benefits upon separation, and receives a monthly retirement allowance. If the member meets this requirement, he or she may continue his or her enrollment at retirement, enroll within 60 days of retirement, or enroll during any Open Enrollment period. If a member is currently enrolled in a CalPERS health plan and wants to continue enrollment into retirement, the employer will notify CalPERS and the member's coverage will continue into retirement.

#### Survivors of an Annuitant

If a CalPERS annuitant satisfied the requirement to retire within 120 days of separation, the survivor may be eligible to enroll within 60 days of the annuitant's death or during any future Open Enrollment period. *Note: A survivor cannot add any new dependents; only dependents that were enrolled or eligible to enroll at the time of the member's death qualify for benefits.*

Surviving registered domestic partners who are receiving a monthly annuity as a surviving beneficiary of a deceased employee or annuitant on or after January 1, 2002, are eligible to continue coverage if currently enrolled, enroll within 60 days of the domestic partner's death, or enroll during any future Open Enrollment period.

#### Eligibility Exceptions

Certain family members are **not** eligible for CalPERS health benefits:

- Children age 26 or older;
- Children who have been married;
- Children's spouses;
- Disabled children over age 26 who were never enrolled or who were deleted from coverage;
- Former spouses;
- Grandparents;
- Parents;
- Children of former spouses/ former registered domestic spouses; and
- Other relatives.

#### Death of a Member

Upon the death of an employee while in State service, the law requires the State employer to continue to pay contributions for the survivor's or registered domestic partner's health coverage for up to 120 days



## Summary of the Current Substantive Plan Provisions

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after the employee's death. Surviving family members will be eligible for health benefit coverage, provided they:

- Qualify for a monthly survivor check from CalPERS;
- Were an eligible dependent at the time of the member's death; and
- Continue to qualify as eligible family members.

Surviving family members who do not meet the above qualifications may be eligible for COBRA.

Children of registered domestic partners may have continued eligibility if they were enrolled as family members at the time of a member's death.

### **Coordination with Medicare**

CalPERS retired members who qualify for premium-free Part A, either on their own or through a spouse (current, former, or deceased), must sign up for Part B as soon as they qualify for Part A. A member must then enroll in a CalPERS-sponsored Medicare plan. The CalPERS-sponsored Medicare plan will pay for costs not paid by Medicare, by coordinating benefits.

### **Dental Benefits**

#### **Retired Employees**

Retired State employees are eligible to continue enrollment in the State's Dental Program if they retire within 120 days after their date of separation and they receive a retirement allowance from CalPERS. Retired employees who did not continue dental coverage into retirement may enroll during the annual dental open enrollment period.

California Highway Patrol employees who retired on or after September 30, 1992, may elect to continue enrollment in the Union-sponsored indemnity plan or change to a State-sponsored dental plan. Under the terms of the Memorandum of Understanding between the California Highway Patrol and the California Department of Human Resource, this is an irrevocable one-time election.

California Correctional Peace Officers Association members who are enrolled in a union-sponsored dental plan must change to a State-sponsored dental plan and retire within 120 days after their date of separation to continue their dental coverage.

#### **Survivors of an Employee or Annuitant**

Departments are required to continue paying the State Contributions for a covered employee's spouse, domestic partner, and other eligible family members for up to 120 days following an employee's death. During this time, CalPERS will determine if the spouse or other family members are eligible for continuation coverage.



## Summary of the Current Substantive Plan Provisions

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After 120 days, the surviving family member(s) will be eligible to continue their current coverage if they meet all of the following criteria:

- They were enrolled as dependents at the time of death;
- They qualify for a monthly survivor allowance from CalPERS; and
- They continue to qualify as family members.

Surviving enrolled family members who do not qualify to continue their current coverage are eligible for continuation coverage under COBRA.

### 2019 State Contribution

The 2019 maximum State Contribution amounts are as follows:

2019 State Contribution		
One-Party Coverage	Two-Party Coverage	Family Coverage
\$734.00	\$1,398.00	\$1,788.00

The preceding “100/90” State contributions rates are based on:

- 100 percent of the weighted average single premium for employees and annuitants participating in the four Basic plans with the highest enrollment of single coverage; plus
- An additional contribution for dependent coverage equal to 90 percent of the weighted average excess of the two-party or family premium over the single premium for employees and annuitants participating in the four Basic plans with the highest enrollment of two-party and family coverage.

If the State 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.

The actual amount of the contribution varies based on the employee type as described below.

### State Contribution – Judge Elected or Appointed Prior to November 9, 1994

State Contributions are based upon the vesting schedule applicable to State Employees.

If a member is eligible for a deferred retirement benefit, the member must pay the full plan premium until he or she starts receiving benefits in order to have the State's contribution paid once he or she begins receiving retirement payments.

## Summary of the Current Substantive Plan Provisions

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### State Contribution – Judge Elected or Appointed After November 9, 1994

To continue CalPERS health coverage into retirement if the member is under age 65, the member must:

- Have at least five years of service credit;
- Elect health coverage within 60 days after leaving judicial office; and
- Assume the cost of both the member's share and the employer's share of the monthly premiums – plus an additional 2 percent of the premium, until age 65.

When the member reaches age 65, the member is eligible for the employer's share of the premium. The State Contribution is determined by the member's years of service credit:

Years of Service	State Contribution
At Least 5 Years	50%
Between 5 to 10 Years	Pro-rated between 50% to 100%
10 or More Years	100%

### State Contribution – Legislator, Constitutional Officer, or Statutory Officer

Members of the CalPERS Health Program can continue coverage into retirement. Members must have at least eight years of service for health benefits vesting. If the member took office after January 1, 1985, he or she will need 10 years to receive the full State Contribution towards the monthly premium.

### State and CSU Employees (includes Misc., Industrial, CHP, POFF, and Safety)

For State Employees, the amount the State contributes toward health coverage depends on whether the employee is vested. The contribution amount is determined by a formula set by law and the date the employee was first employed by the State.

- **First hired by the State prior to January 1, 1985:** The member is eligible to receive 100 percent of the State's contribution toward the member's health premium upon the member's retirement.
- **First hired by the State between January 1, 1985 and January 1, 1989:** The member is subject to vesting requirements, as follows:
  - 10 years of service: Member is fully vested and qualifies for 100 percent of the State's contribution toward his or her health premium.
  - Less than 10 years of service: Members are eligible for health coverage; however, the State's contribution will be reduced by 10 percent for each year of service under 10 years. The member will be responsible for the additional cost.

## Summary of the Current Substantive Plan Provisions

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- **First hired by the State after January 1, 1989:** The percentage of the State's contribution is based on completed years of State credited service as follows:

Years of Credited Service	State Contribution
Less than 10	0%
10	50%
10 to 19	50%, plus 5% added for each year after the 10 <sup>th</sup> year
20 or more	100%

For California State University Employees and members on disability, the above vesting requirements do not apply and the employer pays 100 percent of the contribution provided the member is eligible for healthcare benefits at retirement.

California State University Employees hired on or after July 1, 2017, must have at least 10 years of credited service to be eligible for healthcare benefits at retirement.

### State Employees in Bargaining Units and Judicial Employees

The State and employees in most bargaining units and Judicial Employees have agreed to changes in benefits if an employee is hired after certain effective dates. The key benefit changes include:

- Reducing the "100/90" State contribution formula to "80/80";
- Grading the State contribution if the member has less than 25 years of Credited Service at retirement;
- For Medicare eligible members, eliminating the Medicare Part B subsidy; and
- For Medicare eligible members, developing the "80/80" State contribution based on the premium rates for only Medicare members.

## Summary of the Current Substantive Plan Provisions

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The following table shows the percentage of State contribution based on years of Credited Service at retirement:

Years of Credited Service	State Contribution
Less than 15	0%
15	50%
15 to 24	50%, plus 5% added for each year after the 15 <sup>th</sup> year
25 or more	100%

The following table shows the plan change effective date by employee type:

Employee Type	Plan Change Effective Date
BU 9 and 10	January 1, 2016
SEIU (BU 1,3,4,11,14,15,17,20,21)	January 1, 2017
BU 2,6,7,8,12,13,18,19	January 1, 2017
Judicial Employees	January 1, 2017
BU 16	April 1, 2017
Exempt/Excluded/Executive Employees	July 1, 2018

### Prefunding of Retiree Healthcare Benefits

The State and employees in all bargaining units and Judicial employees have agreed to pre-fund retiree healthcare benefits. The State and all active members make contributions into separate CERBT accounts that 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.

Assets in each respective CERBT account cannot be used to pay benefits until the earlier of 2046 or the year that the actuarial accrued liability is fully funded, and then only for the members of those bargaining units. GASB 75 requires discrete plan reporting for the portion of asset amounts accumulated solely for the payment of benefits of certain groups of employees. The State's comprehensive annual financial report will include these plan amounts.



## Summary of the Current Substantive Plan Provisions

The following table shows the Fiscal Year Beginning date of the Bargaining Unit's goal to reach 50 percent of actuarially determined normal cost ("Fund Goal") as well as the total employee contribution percentage of pensionable compensation (the State will make a matching contribution of the same amount, except for BU 5 <sup>a</sup>):

Bargaining Unit	Fiscal Year Beginning July 1,					
	2016	2017	2018	2019	2020	2021
SEIU (BU 1,3,4,11,14,15,17,20,21)			1.2%	2.3%	3.5%	Fund Goal
BU 2		0.7%	1.3%	2.0%	Fund Goal	
BU 5 (Highway Patrol) <sup>a</sup>	0.5%	0.5%	0.5%	Fund Goal		
BU 6 (Corrections)	1.3%	2.6%	4.0%	Fund Goal		
BU 7 (Protective Services and Public Safety)		1.3%	2.7%	4.0%	Fund Goal	
BU 8 (Firefighters)		1.5%	3.0%	4.4%	Fund Goal	
BU 9 (Professional Engineers)		0.5%	1.0%	2.0%	Fund Goal	
BU 10 (Professional Scientific)		0.7%	1.4%	2.8%	Fund Goal	
BU 12 (Crafts & Maintenance)	0.5%	1.5%	2.5%	3.5%	4.6%	Fund Goal
BU 13 (Stationary Engineers)		1.3%	2.6%	3.9%	Fund Goal	
BU 16 (Physicians and Dentists)	0.5%	1.0%	1.4%	Fund Goal		
BU 18 (Psychiatric Technicians)		1.3%	2.6%	4.0%	Fund Goal	
BU 19 (Health and Social Services)		1.0%	2.0%	3.0%	Fund Goal	
Judicial Employees	1.5%	2.3%	Fund Goal			
Exempt/Excluded/Executive Employees		0.8%	1.6%	2.4% <sup>b</sup>	Fund Goal	

<sup>a</sup> For bargaining unit 5, the State contributes 7.3% of base pay and the member contributes 0.5% of base pay in fiscal years 2017, 2018, and 2019.

<sup>b</sup> For the Exempt/Excluded/Executive employees, contribution rate for fiscal year beginning July 1, 2020, was assumed to be 2.4%.

## Summary of the Current Substantive Plan Provisions

EPO and HMO Basic Plans	
Kaiser Permanente, Blue Shield Access+ HMO, Blue Shield Access+ EPO, Anthem Blue Cross, Health Net, Sharp Performance Plus, UnitedHealthcare SignatureValue Alliance HMO, Western Health Advantage HMO	
	Copay and/or Benefit Limit
<b>Hospital</b>	
Inpatient	No Charge
Outpatient	
Kaiser Permanente	\$15/Visit
Other HMO/EPO Plans	No Charge
<b>Physician Services</b>	
Office Visits	\$15/visit
<i>More than one copay may apply during an office visit if multiple services are provided.</i>	
Outpatient Visits	
Kaiser Permanente	\$15/visit
Other HMO Plans	\$15/visit
Urgent Care Visits	
Other HMO Plans	\$15/visit
Allergy Testing/Treatment	
Kaiser Permanente	No charge for Injections \$15/Visit (Testing Visits)
Other HMO Plans	No Charge
Vision Exam (Refraction)	
Kaiser Permanente	No Charge
Other HMO Plans	No Charge
<i>For age 17 and under. Varies by plan for age 18 and over and may be limited to one visit per calendar year.</i>	
Hearing Exam/Screening	
Kaiser Permanente	\$15/visit
Other HMO Plans	No Charge
Inpatient Hospital Visits	No Charge
Surgery/Anesthesia	
Kaiser Permanente	No Charge for Inpatient, \$15 for Outpatient
Other HMO Plans	No Charge
<b>Ambulance Service</b>	
Air/ground ambulance service	No Charge
<b>Emergency Services</b>	
<i>Waived if admitted as an inpatient or for observations as an outpatient</i>	\$50/Visit
<b>Prescription Drug Benefit</b>	
<b>Other HMO Plans</b>	
Retail Pharmacy	\$5/generic
<i>(up to 30-day supply)</i>	\$20/formulary brand name
	\$50/non-formulary
	<i>(\$40 if medical necessity approved)</i>
Mail Order Program	\$10/generic
<i>(up to 90-day supply)</i>	\$40/formulary brand name
<i>\$1,000 maximum copayment per person per calendar year.</i>	\$100/non-formulary
	<i>(\$70 if medical necessity approved)</i>
Maximum Calendar Year Deductible	\$1,000
<b>Kaiser Permanente</b>	
<i>Up to 30-day supply</i>	\$5/generic / \$20/brand name
<i>31-100-day supply</i>	\$10/generic / \$40/brand name



## Summary of the Current Substantive Plan Provisions

PERS Select, PERS Choice, & PERSCare PPO Basic Plans						
	PERS Select		PERS Choice		PERSCare	
	Member's Cost		Member's Cost		Member's Cost	
	PPO	Non-PPO	PPO	Non-PPO	PPO	Non-PPO
<b>Calendar Year Deductible</b> Individual Family	\$1,000 \$2,000		\$500 \$1,000		\$500 \$1,000	
<b>Maximum Calendar Year Copay</b> Individual Family	\$3,000 \$6,000	None None	\$3,000 \$6,000	None None	\$2,000 \$4,000	None None
<b>Lifetime Maximum Benefit - Per Individual</b>	None		None		None	
<b>Hospital</b> Per Admission Deductible Inpatient and Outpatient	None 20%	None 40%	None 20%	None 40%	\$250 10%	\$250 40%
<b>Physician Services</b> Office Visits Urgent Care Visits Outpatient Visits Inpatient Visits Allergy Testing/Treatment	\$35 copay <sup>1,2</sup> \$35 copay \$20 copay 20% 20%	40% 40% 40% 40% 40%	\$20 copay <sup>2</sup> \$35 copay \$20 copay 20% 20%	40% 40% 40% 40% 40%	\$20 copay <sup>2</sup> \$35 copay \$20 copay 10% 10%	40% 40% 40% 40% 40%
<b>Ambulance Service</b>	20%	20%	20%	20%	10%	10%
<b>Emergency Services</b> ((\$50 deductible per visit for covered ER charges - waived if admitted to Hospital))	20%	20%	20%	20%	10%	10%
<b>Prescription Drug Benefit</b> Applies to PERS Select, PERS Choice, and PERSCare	Generic		Preferred Brand		Non-Preferred Brand	
Retail Pharmacy* *short-term use	\$5		\$20		\$50 (\$40 if partial waiver of Non-Preferred Brand copayment approved)	
Retail Pharmacy Maintenance Medications filled after 2nd Fill** ** A maintenance medication taken longer than 60 days for chronic conditions.	\$10		\$40		\$100 (\$70 if partial waiver of Non-Preferred Brand copayment approved)	
Mail Service Pharmacy A \$1,000 maximum copayment per person per calendar year applies	\$10		\$40		\$100 (\$70 if partial waiver of Non-Preferred Brand copayment approved)	

<sup>1</sup> Reduced to \$10 if enrolled with personal doctor

<sup>2</sup> \$35 for specialist

## Summary of the Current Substantive Plan Provisions

EPO and HMO Medicare Plans Kaiser Permanente, UnitedHealthcare, and Anthem Preferred		
	Medicare Managed Care Plan (Medicare Advantage)	Medicare Managed Care Plan (Group Medicare Advantage)
	Kaiser Permanente	UnitedHealthcare, Anthem Preferred
	Copay and/or Benefit Limit	Copay and/or Benefit Limit
<b>Hospital</b> Inpatient Outpatient	No Charge \$10/visit	No Charge No Charge
<b>Physician Services</b> Office Visits Urgent Care Visits Allergy Testing/Treatment  Vision Exam (Refraction) Hearing Exam/Screening Inpatient Hospital Visits Surgery/Anesthesia	\$10/visit \$10/visit \$3/visit (injection visits) \$10/visit (testing visits) \$10/visit \$10/visit No Charge No Charge for Inpatient \$10/visit for Outpatient	\$10/visit \$25/visit \$10/visit (injection visits) \$10/visit (testing visits) \$10 (limited to one visit) \$10/visit No Charge No Charge
<b>Ambulance Service</b> <i>Air/ground ambulance service</i>	No Charge	No Charge
<b>Emergency Services</b> <i>Waived if admitted as an inpatient or for observations as an outpatient</i>	\$50/visit	\$50/visit
<b>Prescription Drug Benefit</b>		
Retail Pharmacy (up to 30-day supply) (Does not apply to Kaiser)  Mail Order Program \$1,000 maximum copayment per person per calendar year (up to 90-day supply) (Does not apply to Kaiser)	\$5/generic  \$20/brand name Kaiser Permanente provides up to 100-day supply (or a 30-day supply for certain drugs) through its pharmacies or mail order program.  \$10/generic \$40/brand name Kaiser Permanente provides up to 100-day supply (or a 30-day supply for certain drugs) through its pharmacies or mail order program.	\$5/generic  \$20/formulary brand name \$50/non-formulary (\$40 if medical necessity approved)  \$10/generic \$40/formulary brand name \$100/non-formulary (\$70 if medical necessity approved)

## Summary of the Current Substantive Plan Provisions

PERS Select, PERS Choice, & PERSCare Supplement Plans			
PPO Supplement to Original Medicare Plans			
	PERS Select	PERS Choice	PERSCare
	PPO	PPO	PPO
<b>Calendar Year Deductible</b>	None Plan pays Medicare Parts A and B deductible	None Plan pays Medicare Parts A and B deductible	None Plan pays Medicare Parts A and B deductible
<b>Lifetime Maximum Benefit - Per Individual</b>	None	None	None
<b>Hospital</b> Inpatient and Outpatient	No Charge	No Charge	No Charge
<b>Physician Services</b> Physician Office Visits Inpatient Visits Outpatient Visits Urgent Care Visits Allergy Testing/Treatment	No Charge No Charge No Charge No Charge No Charge	No Charge No Charge No Charge No Charge No Charge	No Charge No Charge No Charge No Charge No Charge
<b>Ambulance Service</b>	No Charge	No Charge	No Charge
<b>Emergency Services</b>	No Charge	No Charge	No Charge
<b>Prescription Drug Benefit</b> Applies to PERS Select, PERS Choice, and PERSCare	<b>Generic</b>	<b>Preferred Brand</b>	<b>Non-Preferred Brand</b>
Retail Pharmacy* <i>*short-term use</i>	\$5	\$20	\$50 <i>(\$40 if partial waiver of Non-Preferred Brand copayment approved)</i>
Retail Pharmacy Maintenance Medications filled after 2nd Fill** <i>** A maintenance medication taken longer than 60 days for chronic conditions.</i>	\$10	\$40	\$100 <i>(\$70 if partial waiver of Non-Preferred Brand copayment approved)</i>
Mail Service Pharmacy <i>A \$1,000 maximum copayment per person per calendar year applies</i>	\$10	\$40	\$100 <i>(\$70 if partial waiver of Non-Preferred Brand copayment approved)</i>

## Summary of the Current Substantive Plan Provisions

CCPOA Association Plans (HMO)	
Basic Plan – Regions North and South	
	Copay and/or Benefit Limit
<b>Hospital</b>	
Inpatient	\$100 per admission
Outpatient Facility/Surgery Services	\$50/visit
<b>Physician Services</b>	
Office Visits	\$15/visit
Outpatient Visits	\$15/visit
Urgent Care Visits	\$15/visit
Allergy Testing/Treatment	No Charge
Vision Exam (Refraction)	\$15/visit
Hearing Exam/Screening	\$15/visit
Inpatient Hospital Visits	No Charge
Surgery/Anesthesia	No Charge
<b>Ambulance Service</b>	No Charge
<b>Emergency Services</b>	
<i>Waived if hospitalized or kept for observation – if admitted, \$100 per admission fee will apply</i>	\$75/visit
<b>Prescription Drug Benefit</b>	
Deductible	\$50 calendar year Tier 2, 3, 4 deductible per member, not to exceed \$150 per family
Retail Pharmacy	\$10/Tier 1 \$25/Tier 2 \$50/Tier 3 and 4
Mail Order Program (up to 90-day supply)	\$20/Tier 1 \$50/Tier 2 \$100/Tier 3 and 4

## Summary of the Current Substantive Plan Provisions

CCPOA Association Plans (HMO) Medicare Plan Supplement to Original Medicare	
	Copay and/or Benefit Limit
<b>Hospital</b>	
Inpatient	\$100 per admission
Outpatient Surgery	No Charge
<b>Physician Services</b>	
Office Visits	\$10/visit
Outpatient Visits	\$10/visit
Urgent Care Visits	\$10/visit
Allergy Testing/Treatment	No Charge
Vision Exam (Refraction)	\$10/visit
Hearing Exam/Screening	\$15/visit
Inpatient Hospital Visits	No Charge
Surgery/Anesthesia	No Charge
<b>Ambulance Service</b>	No Charge
<b>Emergency Services</b>	No Charge
<b>Prescription Drug Benefit</b>	
Retail Pharmacy (up to 30-day supply)	\$5/Tier 1 \$20/Tier 2 \$35/Tier 3 \$50/Tier 4 and 5
Mail Order Program (up to 90-day supply)	\$10/Tier 1 \$40/Tier 2 \$70/Tier 3 \$150/Tier 4

## Summary of the Current Substantive Plan Provisions

CAHP & PORAC Association Plans (PPOs)				
Basic Plans				
	CAHP Copay/Limits		PORAC Copay/Limits	
	PPO	Non-PPO	PPO	Non-PPO
<b>Calendar Year Deductible</b>				
Individual	None	None	\$300	\$600
Family	None	None	\$900	\$1,800
<b>Out-of-Pocket Maximum</b>	\$2,000/member \$4,000/family	None None	\$3,000/individual or \$6,000/family (Combined PPO and non-PPO)	
<b>Lifetime Maximum</b>	None	None	None	None
<b>Hospital</b>				
Inpatient	10%	Varies. See EOC	10%	10% (varies)
Outpatient	10%	40%	10%	10% (varies)
<b>Physician Services</b>				
Office Visits	\$15	40%	\$20	10%
Outpatient Visits	10%	40%	10%	10%
Urgent Care Visits	\$15	40%	10%	10%
Allergy Testing/Treatment	10%	40%	10%	10%
Vision Exam (Refraction)	Not Covered	Not Covered	Not Covered	Not Covered
Hearing Exam/Screening	10%	40%	20%	20%
Inpatient Hospital Visits	10%	40%	10%	10% (varies)
Surgery/Anesthesia	10%	40%	10%	10% (varies)
<b>Ambulance Service</b>	20%	20%	20%	20%
<b>Emergency Services</b>				
Emergency	\$50* + 10%	\$50* + 10%	10%	10%
Non-Emergency	\$50* + 10%	\$50* + 40%	50%	50%
<i>* If admitted to the hospital on an inpatient basis, the \$50 copayment will be reduced to \$25</i>				
<b>Prescription Drug Benefit</b>				
Retail Pharmacy	\$6/generic	\$6/generic	\$10/generic	\$10/generic
CAHP (up to 30-day supply)	\$25/single source	\$25/single source	\$25/ formulary	\$25/ formulary
PORAC (up to 34-day supply or 100 pills/units, whichever is more)	\$35/multi-source	\$35/multi-source	brand name	brand name
Retail Pharmacy	\$12/generic	\$12/generic	\$45/non-formulary brand	\$45/non-formulary brand
Maintenance Medications filled after 2nd Fill**	\$50/single source	\$50/single source	Not Applicable	Not Applicable
CAHP (up to 30-day supply)	\$70/multi-source	\$70/multi-source		
** A maintenance medication taken longer than 60 days for chronic conditions.				
Mail Order Program	\$12/generic	\$12/generic	\$20/generic	Not Applicable
CAHP (up to 90-day supply)	\$50/single source	\$50/single source	\$40/ formulary	
PORAC (up to 90-day supply or 100 pills/units, whichever is more)	\$70/multi-source	\$70/multi-source	brand name	
			\$75/non-formulary brand	

## Summary of the Current Substantive Plan Provisions

CAHP & PORAC Association Plans (PPOs) PPO Supplement to Original Medicare		
	CAHP Copays/Limits	PORAC Copays/Limits
<b>Deductibles</b>	\$100/individual \$200/family (Major Medical deductible)	\$100/individual \$200/family (Major Medical deductible)
<b>Hospital</b>		
Inpatient	No Charge	No charge. Plan pays after Medicare benefits are exhausted. See EOC
Outpatient	No Charge	No Charge
<b>Physician Services</b>		
Office Visits	\$10/visit	No Charge
Outpatient Visits	No Charge	No Charge
Urgent Care Visits	No Charge	No Charge
Allergy Testing/Treatment	No Charge	No Charge
Vision Exam (Refraction)	Not Covered	20%; one exam/ calendar year
Hearing Exam/Screening	No Charge	20%; \$50/exam in connection with hearing aid purchase
Inpatient Hospital Visits	No Charge	No Charge
Surgery/Anesthesia	No Charge	No Charge
<b>Ambulance Service</b>	No Charge if Medicare approved 20% if not Medicare approved	No Charge
<b>Emergency Services</b>	No Charge if Medicare approved 20% if not Medicare approved	No Charge
<b>Prescription Drug Benefit</b>		
Retail Pharmacy (up to 30-day supply) CAHP: Diabetic supplies paid under medical benefit. PORAC: \$50 deductible/member for retail only	\$6/generic \$25/preferred \$35/non-preferred	\$10/generic \$25/formulary brand name \$45/non-formulary brand name
Retail Pharmacy Maintenance Medications filled after 2nd fill* CAHP (up to 30-day supply) * A maintenance medication taken longer than 60 days for chronic conditions.	\$12/generic \$50/preferred \$70/non-preferred	
Mail Order Program (90-day supply)	\$12/generic \$50/preferred \$70/non-preferred	\$20/generic \$40/single source \$75/multi-source

## Summary of the Current Substantive Plan Provisions

State Sponsored Dental Plan			
BENEFITS	INDEMNITY	PREFERRED PROVIDER OPTION	PREPAID
Type of Plan	Fee-for-Service Plan, this plan provides reimbursement for services rendered.	Plan provides maximum benefit when you visit an in-network PPO dentist.	Plan pays enrollee's chosen dentist a monthly fixed rate to provide services as
Dental Providers	Any licensed dentist. However, out-of-pocket expenses may be lower when visiting a Delta Dental PPO dentist.	Any licensed dentist, but maximum benefits when visiting a PPO network dentist. If an out-of-PPO network dentist is used, benefits are lower.	Must select a dental provider affiliated with the enrollee's prepaid plan.
Orthodontic Providers	May visit any orthodontist. However, out-of-pocket expenses may be lower when visiting a Delta Dental PPO dentist.	Must visit an in-PPO network orthodontist to receive maximum benefit.	Must use orthodontist affiliated with the enrollee's prepaid plan.
Changing Providers	May change dentists at any time.	May change at any time.	May change to another dentist affiliated with the plan, with prior approval.
Deductibles	Basic: \$50 per person, up to \$150 annual maximum per family.	\$25 per person, up to \$100 annual maximum per family, for PPO network dentists.  \$75 per person up to \$200 annual maximum per family for non-PPO network dentists.	No deductible.
Co-payments	Member pays the co-payment and any deductibles and charges above the annual maximum for covered services when visiting a Delta Dental dentist.  When visiting a non-Delta Dental dentist, member pays the difference between the dentist's submitted charges and Delta Dental's approved fees.	Member pays the co-payment and any deductibles and charges above the annual maximum for covered services when visiting a Delta Dental dentist.  When visiting a non-Delta Dental dentist, member pays the difference between the dentist's submitted charges and Delta Dental's approved fees.	Co-payments for certain covered procedures. May require payment at time of treatment.
Plan Payments	Payments based on Delta Dentist contracted fees or the maximum plan allowance when non-Delta Dental dentists are used.	Payments based on Delta Dentist contracted fees or the maximum plan allowance when non-Delta Dental dentists are used.	Plan pays dentist monthly contract fee.
Maximum Benefits per Calendar Year	Basic: \$2,000 for employee, \$1,000 per dependent	\$2,000 for employee, \$2,000 per eligible dependent when PPO network dentists are used.	No maximum.
Maximum Lifetime Implant Benefit	Not a covered benefit.	Maximum lifetime benefit of \$2,500 for each employee and dependent, if using a PPO Plan provider.	Premier Access and Western Dental only.



## Summary of the Current Substantive Plan Provisions

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California State University Sponsored Dental Plan		
BENEFITS	Delta Dental Basic	DeltaCare Basic
Diagnostic and preventive benefits	75%, no deductible	No Cost
Basic benefits	75%, deductible applies	No Cost
Crowns, inlays, inlays and cast restoration benefits	50%, deductible applies	\$35 - \$50 per unit; plus additional cost for precious metals and porcelain on molars
Dentures	50%, deductible applies	Full – \$60 each; Partials – \$70 each
Orthodontic benefits	50%, maximum lifetime of \$1,000	\$1,400 plus \$350 start-up costs, Covers up to 24 months of active treatment
Annual Deductibles	\$50 Per Person/\$150 Per Family	No Deductible
Annual Maximum	\$1,500 Per Person	No Maximum

## Summary of the Current Substantive Plan Provisions

2019 Health Plan Rates			
Basic Plans - HMO			
Plan	Employee Only	Employee & 1 Dep.	Employee & 2+ Dep.
Anthem Select HMO	\$742.89	\$1,485.78	\$1,931.51
Anthem Traditional HMO	\$1,034.48	\$2,068.96	\$2,689.65
Blue Shield	\$799.03	\$1,598.06	\$2,077.48
Health Net Salud y Más	\$376.89	\$753.78	\$979.91
Health Net SmartCare	\$728.70	\$1,457.40	\$1,894.62
Kaiser	\$708.39	\$1,416.78	\$1,841.81
Kaiser Out-of-State - Colorado	\$964.68	\$1,929.36	\$2,508.17
Kaiser Out-of-State - Georgia	\$964.68	\$1,929.36	\$2,508.17
Kaiser Out-of-State - Hawaii	\$964.68	\$1,929.36	\$2,508.17
Kaiser Out-of-State - Mid-Atlantic	\$964.68	\$1,929.36	\$2,508.17
Kaiser Out-of-State - Northwest	\$964.68	\$1,929.36	\$2,508.17
Sharp	\$593.66	\$1,187.32	\$1,543.52
UnitedHealthcare	\$695.77	\$1,391.54	\$1,809.00
Western Health Advantage	\$706.79	\$1,413.58	\$1,837.65
Basic Plans - PPO			
Plan	Employee Only	Employee & 1 Dep.	Employee & 2+ Dep.
Anthem EPO Del Norte	\$764.78	\$1,529.56	\$1,988.43
PERS Choice	\$764.78	\$1,529.56	\$1,988.43
PERS Select	\$492.24	\$984.48	\$1,279.82
PERSCare	\$929.89	\$1,859.78	\$2,417.71
Basic Association Plans			
Plan	Employee Only	Employee & 1 Dep.	Employee & 2+ Dep.
CAHP	\$697.46	\$1,354.01	\$1,770.92
CCPOA - North	\$754.96	\$1,513.14	\$2,042.88
CCPOA - South	\$622.54	\$1,248.25	\$1,686.69
PORAC	\$774.00	\$1,623.00	\$2,076.00

## Summary of the Current Substantive Plan Provisions

2019 Health Plan Rates			
Supplement/Managed Medicare Plans - HMO			
Plan	Employee Only	Employee & 1 Dep.	Employee & 2+ Dep.
Anthem Traditional	\$357.44	\$714.88	\$1,072.32
Kaiser	\$323.74	\$647.48	\$971.22
Kaiser Out-of-State - Colorado	\$323.74	\$647.48	\$971.22
Kaiser Out-of-State - Georgia	\$323.74	\$647.48	\$971.22
Kaiser Out-of-State - Hawaii	\$323.74	\$647.48	\$971.22
Kaiser Out-of-State - Mid-Atlantic	\$323.74	\$647.48	\$971.22
Kaiser Out-of-State - Northwest	\$323.74	\$647.48	\$971.22
UnitedHealthcare	\$299.37	\$598.74	\$898.11
Supplement/Managed Medicare Plans - PPO			
Plan	Employee Only	Employee & 1 Dep.	Employee & 2+ Dep.
PERS Choice	\$360.41	\$720.82	\$1,081.23
PERS Select	\$360.41	\$720.82	\$1,081.23
PERSCare	\$394.83	\$789.66	\$1,184.49
Supplement/Managed Medicare Association Plans			
Plan	Employee Only	Employee & 1 Dep.	Employee & 2+ Dep.
CAHP	\$418.37	\$772.54	\$982.26
CCPOA - North	\$484.58	\$971.59	\$1,453.18
CCPOA - South	\$484.58	\$971.59	\$1,453.18
PORAC	\$513.00	\$1,022.00	\$1,635.00

## Summary of the Current Substantive Plan Provisions

2019 Health Plan Rates			
Combination Plans (Employee in Basic Plan) - HMO			
Plan	1 Dep. In Supplement/ Managed Medicare	2+ Dep. In Supplement/ Managed Medicare	1 Dep. In Basic 1+ Dep. In Supplement/ Managed Medicare
Anthem Traditional	\$1,391.92	\$1,749.36	\$2,012.61
Kaiser	\$1,032.13	\$1,355.87	\$1,457.16
Kaiser Out-of-State - Colorado	\$1,288.42	\$1,612.16	\$1,867.23
Kaiser Out-of-State - Georgia	\$1,288.42	\$1,612.16	\$1,867.23
Kaiser Out-of-State - Hawaii	\$1,288.42	\$1,612.16	\$1,867.23
Kaiser Out-of-State - Mid-Atlantic	\$1,288.42	\$1,612.16	\$1,867.23
Kaiser Out-of-State - Northwest	\$1,288.42	\$1,612.16	\$1,867.23
UnitedHealthcare	\$995.14	\$1,294.51	\$1,412.60
Combination Plans (Employee in Basic Plan) - PPO			
Plan	1 Dep. In Supplement/ Managed Medicare	2+ Dep. In Supplement/ Managed Medicare	1 Dep. In Basic 1+ Dep. In Supplement/ Managed Medicare
Anthem EPO Del Norte	\$1,125.19	\$1,485.60	\$1,584.06
PERS Choice	\$1,125.19	\$1,485.60	\$1,584.06
PERS Select	\$852.65	\$1,213.06	\$1,147.99
PERSCare	\$1,324.72	\$1,719.55	\$1,882.65
Combination (Employee in Basic Plan) Association Plans			
Plan	1 Dep. In Supplement/ Managed Medicare	2+ Dep. In Supplement/ Managed Medicare	1 Dep. In Basic 1+ Dep. In Supplement/ Managed Medicare
CAHP	\$1,051.63	\$1,261.35	\$1,468.54
CCPOA - North	\$1,241.97	\$1,723.56	\$1,771.71
CCPOA - South	\$1,109.55	\$1,591.14	\$1,547.99
PORAC	\$1,283.00	\$1,896.00	\$1,736.00

## Summary of the Current Substantive Plan Provisions

2019 Health Plan Rates			
Combination Plans (Employee in Supplement/Managed Medicare Plan) - HMO			
Plan	1 Dep. In Basic	2+ Dep. In Basic	1 Dep. In Supplement/ Managed Medicare 1+ Dep. In Basic
Anthem Traditional	\$1,391.92	\$2,012.61	\$1,335.57
Kaiser	\$1,032.13	\$1,457.16	\$1,072.51
Kaiser Out-of-State - Colorado	\$1,288.42	\$1,867.23	\$1,226.29
Kaiser Out-of-State - Georgia	\$1,288.42	\$1,867.23	\$1,226.29
Kaiser Out-of-State - Hawaii	\$1,288.42	\$1,867.23	\$1,226.29
Kaiser Out-of-State - Mid-Atlantic	\$1,288.42	\$1,867.23	\$1,226.29
Kaiser Out-of-State - Northwest	\$1,288.42	\$1,867.23	\$1,226.29
UnitedHealthcare	\$995.14	\$1,412.60	\$1,016.20
Combination Plans (Employee in Supplement/Managed Medicare Plan) - PPO			
Plan	1 Dep. In Basic	2+ Dep. In Basic	1 Dep. In Supplement/ Managed Medicare 1+ Dep. In Basic
Anthem EPO Del Norte	\$1,125.19	\$1,584.06	\$1,179.69
PERS Choice	\$1,125.19	\$1,584.06	\$1,179.69
PERS Select	\$852.65	\$1,147.99	\$1,016.16
PERSCare	\$1,324.72	\$1,882.65	\$1,347.59
Combination (Employee in Supplement/Managed Medicare Plan) Association Plans			
Plan	1 Dep. In Basic	2+ Dep. In Basic	1 Dep. In Supplement/ Managed Medicare 1+ Dep. In Basic
CAHP	\$1,074.92	\$1,491.83	\$1,189.45
CCPOA - North	\$1,242.76	\$1,772.50	\$1,501.33
CCPOA - South	\$1,110.29	\$1,548.73	\$1,410.03
PORAC	\$1,362.00	\$1,815.00	\$1,475.00

## Summary of the Current Substantive Plan Provisions

2019 Dental Plan Rates - State Sponsored Plans			
Plan	Employee Only	Employee & 1 Dep.	Employee & 2+ Dep.
DeltaPremier <sup>1</sup>	\$50.83	\$88.75	\$128.28
Delta PPO <sup>2</sup>	\$46.45	\$90.31	\$135.88
Safeguard SOC Enhanced Plan <sup>3</sup>	\$16.06	\$27.18	\$33.48
Delta Care USA <sup>3</sup>	\$19.44	\$31.90	\$44.13
Premier Access <sup>3</sup>	\$15.80	\$25.59	\$35.84
Western Dental <sup>3</sup>	\$15.77	\$26.02	\$36.91

<sup>1</sup> Employee Share: 1 party - \$12.71 / 2 party - \$22.19 / 3 or more party - \$32.07

<sup>2</sup> Employee Share: 1 party - \$11.61 / 2 party - \$22.58 / 3 or more party - \$33.97

<sup>3</sup> Provided at no cost to the retiree

2019 Dental Plan Rates - California State University <sup>4</sup>			
Plan	Employee Only	Employee & 1 Dep.	Employee & 2+ Dep.
Delta Dental PPO - Basic	\$30.45	\$57.52	\$115.49
DeltaCare USA - Basic	\$18.85	\$31.08	\$45.97

<sup>4</sup> Provided at no cost to the retiree

## SECTION D

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### SUMMARY OF THE PARTICIPANT DATA

## A1. Summary of the Participant Data

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### A. Members Currently in Retired Status

1. Counts of Current Retirees by Medical/Rx Benefit Plan and Valuation Group
2. Counts of Current Retirees by Medical/Rx Benefit Plan and Coverage
3. Distribution of Current Retirees by Medical/Rx Benefit Plan and Coverage Type
4. Distribution of Retiree Medical/Rx Benefit by Age
5. Counts of Current Retirees by Dental Benefit Plan and Valuation Group
6. Counts of Current Retirees by Dental Benefit Plan and Coverage
7. Distribution of Current Retirees by Dental Benefit Plan and Coverage Type
8. Distribution of Retiree Dental Benefit Plan by Age

The members in the schedules referenced above include only those retirees who have elected to receive health care coverage or dental coverage through the State of California.

### B. Members Currently in Active Status

1. Distribution of All Active Members by Age and Service

### C. All Members

1. Counts of Current Active Participants and Retirees by Valuation Group



## A1. Summary of the Participant Data

California State Employees									
Counts of Current Retirees by Medical/Rx Benefit Plan and Valuation Group									
	Bargaining Unit 2	Bargaining Unit 5	Bargaining Unit 6	Bargaining Unit 7	Bargaining Unit 8	Bargaining Unit 9	Bargaining Unit 10	Bargaining Unit 12	Bargaining Unit 13
Anthem Blue Cross	33	10	264	79	45	125	20	92	15
Blue Shield	65	61	1,544	396	381	316	81	432	51
Health Net	15	9	131	43	16	39	6	41	3
Kaiser	793	776	7,030	1,993	592	2,496	653	3,121	297
Kaiser Out-of-State	15	17	122	41	17	42	22	40	6
Sharp	6	2	39	21	19	19	1	23	-
UnitedHealthcare	284	66	1,372	707	287	898	267	1,332	88
PERS Choice	605	1,065	7,534	1,487	1,558	1,676	491	3,000	295
PERS Select	11	5	428	62	61	64	15	180	21
PERSCare	728	287	2,360	1,033	579	1,439	409	1,650	129
CAHP	-	4,474	-	5	-	-	-	1	-
CCPOA	1	1	3,835	-	-	-	-	1	-
PORAC	-	-	10	170	5	-	-	-	-
Western Health	<u>4</u>	<u>3</u>	<u>48</u>	<u>15</u>	<u>3</u>	<u>23</u>	<u>8</u>	<u>7</u>	<u>1</u>
<b>Total</b>	<b>2,560</b>	<b>6,776</b>	<b>24,717</b>	<b>6,052</b>	<b>3,563</b>	<b>7,137</b>	<b>1,973</b>	<b>9,920</b>	<b>906</b>
	Bargaining Unit 16	Bargaining Unit 18	Bargaining Unit 19	CSU	Judicial	Exempt Excluded Executive	Other	SEIU	Total
Anthem Blue Cross	9	47	42	241	20	43	29	832	1,946
Blue Shield	20	315	89	686	26	223	160	2,837	7,683
Health Net	3	57	15	121	21	11	10	304	845
Kaiser	289	1,933	1,272	9,020	296	1,608	3,189	30,285	65,643
Kaiser Out-of-State	5	40	18	296	5	32	75	449	1,242
Sharp	2	1	4	79	-	2	2	121	341
UnitedHealthcare	85	665	374	3,474	164	562	851	10,371	21,847
PERS Choice	532	1,187	945	9,165	245	862	2,618	12,611	45,876
PERS Select	17	31	29	231	6	22	31	520	1,734
PERSCare	509	697	778	8,100	235	842	4,503	11,445	35,723
CAHP	-	-	-	-	-	9	698	1	5,188
CCPOA	-	-	-	-	-	19	22	5	3,884
PORAC	-	-	-	56	-	5	8	5	259
Western Health	<u>2</u>	<u>6</u>	<u>5</u>	<u>14</u>	<u>1</u>	<u>22</u>	<u>8</u>	<u>320</u>	<u>490</u>
<b>Total</b>	<b>1,473</b>	<b>4,979</b>	<b>3,571</b>	<b>31,483</b>	<b>1,019</b>	<b>4,262</b>	<b>12,204</b>	<b>70,106</b>	<b>192,701</b>

## A2. Summary of the Participant Data

California State Employees								
Counts of Current Retirees by Medical/Rx Benefit Plan and Coverage								
	One Party		Two Party		Family		Total	
	Male	Female	Male	Female	Male	Female	Male	Female
Anthem Blue Cross	226	497	484	409	218	112	928	1,018
Blue Shield	1,223	2,469	1,472	966	1,104	449	3,799	3,884
Health Net	127	253	134	123	137	71	398	447
Kaiser	10,860	24,336	14,714	10,524	3,441	1,768	29,015	36,628
Kaiser Out-of-State	208	529	291	172	30	12	529	713
Sharp	44	66	56	71	67	37	167	174
UnitedHealthcare	3,531	7,948	5,170	3,748	917	533	9,618	12,229
PERS Choice	7,544	13,944	14,118	6,450	2,889	931	24,551	21,325
PERS Select	232	329	530	264	273	106	1,035	699
PERSCare	6,019	15,962	8,354	4,551	596	241	14,969	20,754
CAHP	630	849	2,511	135	945	118	4,086	1,102
CCPOA	508	511	1,353	283	1,062	167	2,923	961
PORAC	26	36	118	13	55	11	199	60
Western Health	<u>47</u>	<u>173</u>	<u>60</u>	<u>118</u>	<u>63</u>	<u>29</u>	<u>170</u>	<u>320</u>
<b>Total</b>	<b>31,225</b>	<b>67,902</b>	<b>49,365</b>	<b>27,827</b>	<b>11,797</b>	<b>4,585</b>	<b>92,387</b>	<b>100,314</b>

### A3. Summary of the Participant Data

California State Employees			
Distribution of Current Retirees by Medical/Rx Benefit Plan			
	Under 65	At Least 65	Total
Anthem Blue Cross	1,160	786	1,946
Blue Shield	7,213	470	7,683
Health Net	803	42	845
Kaiser	19,229	46,414	65,643
Kaiser Out-of-State	193	1,049	1,242
Sharp	335	6	341
UnitedHealthcare	3,615	18,232	21,847
PERS Choice	13,300	32,576	45,876
PERS Select	1,117	617	1,734
PERSCare	3,154	32,569	35,723
CAHP	2,196	2,992	5,188
CCPOA	2,931	953	3,884
PORAC	130	129	259
Western Health	<u>483</u>	<u>7</u>	<u>490</u>
<b>Total</b>	<b>55,859</b>	<b>136,842</b>	<b>192,701</b>
Distribution of Current Retirees by Coverage Type			
	Under 65	At Least 65	Total
One Party	21,949	77,178	99,127
Two Party	21,377	55,815	77,192
Family	<u>12,533</u>	<u>3,849</u>	<u>16,382</u>
<b>Total</b>	<b>55,859</b>	<b>136,842</b>	<b>192,701</b>

## A4. Summary of the Participant Data

California State Employees			
Distribution of Retiree Medical/Rx Benefit by Age			
Attained Age	Male	Female	Total
Under 40	263	238	501
40-44	350	273	623
45-49	694	654	1,348
50-54	3,656	2,341	5,997
55-59	9,013	8,166	17,179
60-64	13,793	16,418	30,211
65-69	18,141	21,223	39,364
70-74	18,625	18,392	37,017
75-79	12,569	12,576	25,145
80-84	8,007	8,680	16,687
85-89	4,704	6,156	10,860
90 & Over	2,572	5,197	7,769
<b>Totals</b>	<b>92,387</b>	<b>100,314</b>	<b>192,701</b>

## A5. Summary of the Participant Data

California State Employees									
Counts of Current Retirees by Dental Benefit Plan and Valuation Group									
	Bargaining Unit 2	Bargaining Unit 5	Bargaining Unit 6	Bargaining Unit 7	Bargaining Unit 8	Bargaining Unit 9	Bargaining Unit 10	Bargaining Unit 12	Bargaining Unit 13
Delta Dental PPO	350	580	4,531	1,025	455	1,397	275	1,617	188
Delta Dental	2,197	2,601	19,271	4,829	2,947	5,540	1,651	7,441	656
Safeguard	26	82	335	141	58	118	17	262	36
DeltaCare USA	22	33	311	116	29	105	25	483	18
CAHP/Blue Cross	-	3,369	-	2	-	-	-	1	-
Premier Access	-	1	28	3	3	-	1	8	1
Western Dental	<u>1</u>	<u>2</u>	<u>188</u>	<u>4</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>17</u>	<u>-</u>
<b>Total</b>	<b>2,596</b>	<b>6,668</b>	<b>24,664</b>	<b>6,120</b>	<b>3,494</b>	<b>7,161</b>	<b>1,970</b>	<b>9,829</b>	<b>899</b>
	Bargaining Unit 16	Bargaining Unit 18	Bargaining Unit 19	CSU	Judicial	Exempt Excluded Executive	Other	SEIU	Total
Delta Dental PPO	202	715	570	-	146	694	1,829	10,877	25,451
Delta Dental	1,264	3,711	2,867	30,243	860	3,551	9,662	56,906	156,197
Safeguard	13	293	61	-	15	45	538	1,282	3,322
DeltaCare USA	8	122	57	1,525	7	46	249	2,374	5,530
CAHP/Blue Cross	-	-	-	-	-	1	22	-	3,395
Premier Access	-	3	5	-	-	1	1	52	107
Western Dental	<u>-</u>	<u>19</u>	<u>7</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>6</u>	<u>116</u>	<u>365</u>
<b>Total</b>	<b>1,487</b>	<b>4,863</b>	<b>3,567</b>	<b>31,768</b>	<b>1,029</b>	<b>4,338</b>	<b>12,307</b>	<b>71,607</b>	<b>194,367</b>

## A6. Summary of the Participant Data

California State Employees								
Counts of Current Retirees by Dental Benefit Plan and Coverage								
	One Party		Two Party		Family		Total	
	Male	Female	Male	Female	Male	Female	Male	Female
Delta Dental PPO	3,299	7,688	7,250	4,145	2,233	836	12,782	12,669
Delta Dental	25,293	55,064	39,951	24,425	8,060	3,404	73,304	82,893
Safeguard	631	1,460	717	357	109	48	1,457	1,865
DeltaCare USA	1,059	2,376	1,078	712	185	120	2,322	3,208
CAHP/Blue Cross	390	330	1,776	108	712	79	2,878	517
Premier Access	15	31	27	18	12	4	54	53
Western Dental	<u>67</u>	<u>94</u>	<u>81</u>	<u>46</u>	<u>58</u>	<u>19</u>	<u>206</u>	<u>159</u>
<b>Total</b>	<b>30,754</b>	<b>67,043</b>	<b>50,880</b>	<b>29,811</b>	<b>11,369</b>	<b>4,510</b>	<b>93,003</b>	<b>101,364</b>

## A7. Summary of the Participant Data

California State Employees			
Distribution of Current Retirees by Dental Benefit Plan			
	Under 65	At Least 65	Total
Delta Dental PPO	8,942	16,509	25,451
Delta Dental	41,270	114,927	156,197
Safeguard	698	2,624	3,322
DeltaCare USA	1,284	4,246	5,530
CAHP/Blue Cross	1,653	1,742	3,395
Premier Access	65	42	107
Western Dental	<u>252</u>	<u>113</u>	<u>365</u>
<b>Total</b>	<b>54,164</b>	<b>140,203</b>	<b>194,367</b>
Distribution of Current Retirees by Dental Benefit Coverage Type			
	Under 65	At Least 65	Total
One Party	20,869	76,928	97,797
Two Party	21,307	59,384	80,691
Family	<u>11,988</u>	<u>3,891</u>	<u>15,879</u>
<b>Total</b>	<b>54,164</b>	<b>140,203</b>	<b>194,367</b>

## A8. Summary of the Participant Data

California State Employees			
Distribution of Retiree Dental Benefit Plan by Age			
Attained Age	Male	Female	Total
Under 40	225	206	431
40-44	324	245	569
45-49	637	602	1,239
50-54	3,412	2,164	5,576
55-59	8,693	7,893	16,586
60-64	13,519	16,244	29,763
65-69	18,342	21,402	39,744
70-74	19,031	18,913	37,944
75-79	12,910	12,981	25,891
80-84	8,280	8,929	17,209
85-89	4,929	6,431	11,360
90 & Over	2,701	5,354	8,055
<b>Totals</b>	<b>93,003</b>	<b>101,364</b>	<b>194,367</b>



## B1. Summary of the Participant Data

California State Employees								
Distribution of All Active Members by Age and Service								
Attained Age	Years of Service to Valuation Date							Totals
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 Plus	No.
Under 20	82	-	-	-	-	-	-	82
20-24	4,918	17	-	-	-	-	-	4,935
25-29	19,998	2,156	23	-	-	-	-	22,177
30-34	19,903	8,553	3,473	18	-	-	-	31,947
35-39	14,950	8,433	10,941	1,964	25	-	-	36,313
40-44	10,272	6,229	9,822	7,507	1,884	31	-	35,745
45-49	8,330	5,269	8,676	8,256	7,100	1,944	59	39,634
50-54	6,659	4,339	6,927	6,811	6,224	5,123	1,631	37,714
55-59	5,591	3,891	5,746	5,601	4,664	4,308	3,938	33,739
60-64	3,380	2,847	4,089	3,931	2,795	2,311	2,632	21,985
65 & Over	2,041	1,726	2,469	2,070	1,331	1,022	1,387	12,046
<b>Totals</b>	<b>96,124</b>	<b>43,460</b>	<b>52,166</b>	<b>36,158</b>	<b>24,023</b>	<b>14,739</b>	<b>9,647</b>	<b>276,317</b>

## C1. Summary of the Participant Data

California State Employees									
Counts of Current Active Participants and Retirees by Valuation Group									
	Bargaining Unit 2	Bargaining Unit 5	Bargaining Unit 6	Bargaining Unit 7	Bargaining Unit 8	Bargaining Unit 9	Bargaining Unit 10	Bargaining Unit 12	Bargaining Unit 13
Active Participants	4,488	7,392	31,412	7,717	6,178	13,265	4,048	13,053	975
Retired Participants	<u>2,560</u>	<u>6,776</u>	<u>24,717</u>	<u>6,052</u>	<u>3,563</u>	<u>7,137</u>	<u>1,973</u>	<u>9,920</u>	<u>906</u>
<b>Total Participants</b>	<b>7,048</b>	<b>14,168</b>	<b>56,129</b>	<b>13,769</b>	<b>9,741</b>	<b>20,402</b>	<b>6,021</b>	<b>22,973</b>	<b>1,881</b>
	Bargaining Unit 16	Bargaining Unit 18	Bargaining Unit 19	CSU	Judicial	Exempt Excluded Executive	Other	SEIU	Total
Active Participants	1,621	6,228	5,744	49,249	1,617	6,926	4,281	112,123	276,317
Retired Participants	<u>1,473</u>	<u>4,979</u>	<u>3,571</u>	<u>31,483</u>	<u>1,019</u>	<u>4,262</u>	<u>12,204</u>	<u>70,106</u>	<u>192,701</u>
<b>Total Participants</b>	<b>3,094</b>	<b>11,207</b>	<b>9,315</b>	<b>80,732</b>	<b>2,636</b>	<b>11,188</b>	<b>16,485</b>	<b>182,229</b>	<b>469,018</b>

## SECTION E

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### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

## Summary of Actuarial Assumptions and Methods

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***The actuarial assumptions used*** in the actuarial valuation are shown in this section. Actuarial assumptions that are specific to certain groups (i.e., State Miscellaneous, State Industrial, CHP, POFF, State Safety, JRS, and LRS) are discussed under the Demographic and Certain Economic Assumptions subsection and were based on the most recent pension actuarial valuation reports produced by CalPERS. Assumptions that are common to all types of members and unique to the OPEB valuation are shown in the Healthcare and Other Economic Assumptions subsection. The pension related actuarial assumptions were updated by CalPERS, and were first recognized in the OPEB actuarial valuation as of June 30, 2018. The healthcare related assumptions are based on the recommendations from the 2018 experience review for the years July 1, 2014, to June 30, 2018, and were approved by the SCO.

### Actuarial Assumptions and Methods

An actuarial valuation measures the program's funded status and annual funding or accounting costs based on the actuarial assumptions and methods selected. The funded status compares assets to actuarial accrued liabilities, and the annual cost represents the normal cost plus an amortization of the unfunded actuarial accrued liability.

In the actuarial valuation process, certain economic and demographic assumptions are made relating to the projection of benefits and the timing and duration of benefits. The stream of expected projected benefits is discounted to a present value as of the actuarial valuation date. The present value is then spread over past service (actuarial accrued liability), and service for the current year (normal cost) based on the chosen actuarial cost method.

The Actuarial Valuation of the State's OPEB is similar to the Actuarial Valuations performed for the State's pension plans. The demographic assumptions (rates of retirement, termination, disability and mortality, etc.) used in this OPEB Actuarial Valuation were identical to those used in the most recent CalPERS Actuarial Valuations. The demographic assumptions are disclosed in Section F of this report.

In addition, the actuarial cost method (entry-age normal) is identical to the one used in the most recent CalPERS Actuarial Valuation for the State Plan of the California Public Employees' Retirement System.

The discount rate selected was 6.75 percent for the actuarial valuation of the fully funded policy. A discount rate of 6.75 percent can be supported for the actuarial valuation as of June 30, 2019, provided the sponsor makes pre-funding contributions as defined by statute and pre-funding contributions are invested in CalPERS CERBT Strategy 1.

## Summary of Actuarial Assumptions and Methods

For purposes of GASB Nos. 74 and 75 financial reporting, liabilities are discounted using a blended discount rate. The blended discount rate is based on a (1) 20-year general obligation bond index if benefits are financed on a pay-as-you-go basis and (2) the expected return on trust assets if pre-funding assets are available to pay benefits. The following table shows the blended discount rates at June 30, 2018, and June 30, 2019, for each respective actuarial valuation group.

BLENDED DISCOUNT RATES		
Actuarial Valuation Group	June 30, 2018	June 30, 2019
Attorneys and Hearing Officers (BU2)	4.072%	3.711%
Highway Patrol (BU5)	4.282%	3.851%
Corrections (BU6)	4.133%	3.726%
Protective Services and Public Safety (BU7)	4.066%	3.654%
Firefighters (BU8)	4.152%	3.776%
Professional Engineers (BU9)	3.953%	3.586%
Professional Scientific (BU10)	4.084%	3.690%
Craft and Maintenance (BU12)	4.010%	3.604%
Stationary Engineers (BU13)	3.906%	3.516%
Physicians, Dentists, and Podiatrists (BU16)	4.112%	3.772%
Psychiatric Technicians (BU18)	4.080%	3.705%
Health and Social Services/Professional (BU19)	4.159%	3.757%
California State University	3.620%	3.130%
Judicial Branch	4.118%	3.724%
Exempt/Excluded/Executive	3.620%	3.568%
Other	3.620%	3.130%
Service Employees International Union (SEIU)	3.987%	3.604%

Other assumptions and methods unique to OPEB valuations are consistent with CalPERS OPEB assumption parameters, with the exception of the dental trend rates, as follows:

- Healthcare trend – Select and ultimate healthcare trend rates were developed separately for the PPO, prescription drug, HMO, and dental plans. For the Pre-Medicare and Post-Medicare medical and drug plans, the select and ultimate trend rates were set at actual increases for 2020 and 7.50 percent in 2021 graded down over a six-year period until to a trend rate of 4.50 percent in 2027, remains at 4.50 percent for ten years until the ultimate rate of 4.25 percent is reached in 2037. Based on a review of supporting documentation provided by CalPERS and a review of various publically available trend studies, the 2020 trend rate for the PPO per capita claims costs is assumed to be 4.00 percent for Pre-Medicare medical and Pre-Medicare prescription drug, and 4.00 percent for Post-Medicare medical and Post-Medicare prescription drug. Beginning in the year 2023 for Future Retirees, the ultimate trend rate on the Employer's explicit contribution includes an additional 0.18 percent to account for the Excise Tax under Federal Healthcare Reform. For the dental plans, select and ultimate trend rates were set at 0.01 percent for 2020

## Summary of Actuarial Assumptions and Methods

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and 4.50 percent for 2021 and beyond. The trend rates are net of any increases due to the potential wear-away of the EGWP-Wrap design savings in 2026. Effective trend for the Post-Medicare plans affected by the EGWP-Wrap design 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 15 percent savings for the HMO plans remaining as of June 30, 2019, due to the EGWP-Wrap plan design. After seven years, the ultimate savings are assumed to equal 14 percent for PERSCare, 17 percent for PERS Choice, and 10 percent for HMO plans.

- Per capita claim costs – Claims costs were developed separately for the PPO, prescription drug, HMO, and dental plans. Costs were developed for pre-Medicare and post-Medicare coverage at each respective age and gender, using overall average costs adjusted for morbidity.
- Other healthcare assumptions – The proportion of members selecting a particular plan and coverage at retirement was based on the most current census and enrollment data.

# Summary of Actuarial Assumptions and Methods

## Healthcare and Other Economic Assumptions

**Health Cost and Premium Increases** – See table below

Year	Trend Assumption - Per Capita Costs						
	PPO Plans				HMO Plans		Dental
	Pre-Medicare		Post-Medicare		Pre-Medicare	Post-Medicare	
	Medical	Rx	Medical	Rx	Medical/Rx	Medical/Rx	
2020	4.00%	4.00%	4.00%	4.00%	6.16%	6.42%	0.01%
2021	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	4.50%
2022	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	4.50%
2023	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	4.50%
2024	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	4.50%
2025	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	4.50%
2026	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	4.50%
2027	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
2028-2036	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
2037 and Beyond	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%

Year	Trend Assumption - Premiums and Statutory Cap						
	PPO Plans		HMO Plans		Dental	Part B	Statutory Cap
	Pre-Medicare	Post-Medicare	Pre-Medicare	Post-Medicare			
	Medical/Rx	Medical/Rx	Medical/Rx	Medical/Rx			
2020	3.71%	-1.59%	6.33%	6.77%	0.01%	6.72%	4.50%
2021	7.50%	7.50%	7.50%	7.50%	4.50%	4.50%	7.50%
2022	7.00%	7.00%	7.00%	7.00%	4.50%	4.50%	7.00%
2023	6.50%	6.50%	6.50%	6.50%	4.50%	4.50%	6.50%*
2024	6.00%	6.00%	6.00%	6.00%	4.50%	4.50%	6.00%
2025	5.50%	5.50%	5.50%	5.50%	4.50%	4.50%	5.50%
2026	5.00%	5.00%	5.00%	5.00%	4.50%	4.50%	5.00%
2027	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
2028-2036	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
2037 and Beyond	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%

\*Based on actual increases

\*For Future Retirees, the ultimate trend rate on the Employer's explicit contribution includes an additional 0.18 percent to account for the Excise Tax under Federal Healthcare Reform.

All increases are assumed to occur January 1<sup>st</sup> of each year beginning January 1, 2020.

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 15 percent savings for the HMO plans remaining as of June 30, 2019, due to the EGWP-Wrap plan design. After seven years, the ultimate savings are assumed to equal 14 percent for PERSCare, 17 percent for PERS Choice, and 10 percent for HMO plans.

Retired members as of June 30, 2019, are assumed to pay \$135.50 in 2019 and other members as of June 30, 2019, are assumed to pay \$135.50 in 2019 for Medicare Part B premiums.



## Summary of Actuarial Assumptions and Methods

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**Participation percentage:** Participation in the health benefits program is based upon the percent of premium that the employer contribution covers at retirement. We have assumed the following election percentages:

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%	67%	12%
50% to 75%	91%	15%
75% to 90%	96%	20%
90% to 100%	98%	40%

**Percent of Disabilities Treated as Post-Medicare:** Four percent of Public Safety disabilities and 33 percent of all other disabilities are assumed to be eligible for Medicare.

**Coverage and Continuance Assumptions:** 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.

**Price Inflation:** Price inflation is assumed to be 2.25 percent.

**Wage inflation:** Wage inflation is assumed to be 2.50 percent.



## Summary of Actuarial Assumptions and Methods

**Aging 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 does the cost of benefits. Morbidity tables are employed to develop Per Capita Costs at every relevant age. The following table 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 2.58 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. These factors, with the exception of the Pre-Medicare HMO rates, were developed using actual experience.

Aging factors for the PPO and prescription drug plans were 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 were calculated by adjusting the PPO medical factors to account for relative differences between HMO and PPO plans.

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%

**Aged Per Capita Claim Cost – Medical and Prescription:** The following tables represent the assumed per capita claims costs for sample ages. 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) were developed using costs for PERS Choice adjusted by the ratio of single premium for the association plan and PERS Choice. The average costs for each respective plan were age adjusted using the morbidity factors described above.

## Summary of Actuarial Assumptions and Methods

Costs for Retirees and Spouses Expected Monthly Per Capita Costs				
Age	PERS Choice - PPO			
	Medical		Prescription	
	Male	Female	Male	Female
50	\$587.04	\$587.04	\$175.84	\$175.84
55	668.39	654.00	202.33	203.44
60	759.22	726.38	226.93	228.51
65	150.70	141.00	215.45	216.65
70	169.95	155.59	233.43	233.92
75	190.85	171.13	249.80	249.02
80	213.42	187.62	264.54	261.93

Costs for Retirees and Spouses Expected Monthly Per Capita Costs				
Age	PERSCare - PPO			
	Medical		Prescription	
	Male	Female	Male	Female
50	\$737.25	\$737.25	\$202.02	\$202.02
55	839.42	821.35	232.45	233.73
60	953.49	912.24	260.73	262.54
65	162.68	152.21	232.00	233.30
70	183.46	167.96	251.37	251.90
75	206.03	184.73	268.99	268.16
80	230.39	202.53	284.87	282.06

Costs for Retirees and Spouses (Expected Monthly Per Capita Costs)		
Age	All HMO Plans	
	Medical/Rx	
	Male	Female
50	\$682.68	\$755.04
55	797.43	819.37
60	933.04	898.08
65	279.56	257.50
70	318.59	282.84
75	360.02	310.00
80	404.02	339.26

## Summary of Actuarial Assumptions and Methods

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**PPO Per Capita Claim Cost Expense Load:** The following table shows the administrative expenses, per member per month, included in the PPO medical per capita claims costs before application of the aging factors.

Medical Plan	Per Member Per Month Expenses
PERS Choice - Pre-Medicare	\$24.00
PERS Choice - Post-Medicare	\$34.77
PERSCare - Pre-Medicare	\$26.44
PERSCare - Post-Medicare	\$36.14

**Per Capita Claim Cost – Dental:** The following table represents the assumed per capita claims costs for sample ages. Costs were developed separately for DPO/Indemnity and the Pre-Paid Plans, based on premium, claim and enrollment data for calendar years 2019 and 2020. Dental costs do not vary by age or gender.

## Summary of Actuarial Assumptions and Methods

Costs for Retirees and Spouses				
Expected Monthly Per Capita Costs - Non CSU Retirees				
Age	Dental Plans			
	DPO/Indemnity		Pre-Paid Plans	
	First Person	Second Person	First Person	Second Person
50	\$51.89	\$38.74	\$19.50	\$11.64
55	51.89	38.74	19.50	11.64
60	51.89	38.74	19.50	11.64
65	51.89	38.74	19.50	11.64
70	51.89	38.74	19.50	11.64
75	51.89	38.74	19.50	11.64
80	51.89	38.74	19.50	11.64

Costs for Retirees and Spouses				
Expected Monthly Per Capita Costs - CSU Retirees				
Age	Dental Plans			
	DPO/Indemnity		Pre-Paid Plans	
	First Person	Second Person	First Person	Second Person
50	\$33.61	\$29.00	\$20.79	\$12.53
55	33.61	29.00	20.79	12.53
60	33.61	29.00	20.79	12.53
65	33.61	29.00	20.79	12.53
70	33.61	29.00	20.79	12.53
75	33.61	29.00	20.79	12.53
80	33.61	29.00	20.79	12.53

## Summary of Actuarial Assumptions and Methods

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**Adjustments for Disabled Members:** Claims for disabled members were increased by 10 percent if not eligible for Medicare and 40 percent if eligible for Medicare.

**Adjustments for Children:** Claims for current general retirees and survivors were increased by 7.5 percent for medical claims and prescription drug claims and 10.5 percent for dental claims until the retiree or survivor reaches age 65. Claims for current public safety retirees and survivors were increased by 8.0 percent for medical claims and prescription drug claims and 11.5 percent for dental claims until the retiree or survivor reaches age 65. The composite claims were increased for future general retirees and survivors of future general retirees by 2.5 percent for medical claims and prescription drug claims and 2.0 percent for dental claims until the retiree or survivor reaches age 65. The composite claims were increased for future public safety retirees and survivors of future public safety retirees by 3.0 percent for medical claims and prescription drug claims and 2.5 percent for dental claims until the retiree or survivor reaches age 65.

**Medicare Part B Premiums:** Retired members as of June 30, 2019, are assumed to pay \$135.50 in 2019 and other members as of June 30, 2019, are assumed to pay \$135.50 in 2019. Our actuarial valuation assumes Social Security benefits increase at 4.5 percent per year through 2036 and 4.25 percent per year beginning in 2037 and thereafter and will be sufficient to cover projected increases in the Part B premium. Our actuarial valuation does not consider the member's income when estimating Part B premiums.

**Employer Group Waiver Plan:** The per capita costs include approximately 20 percent savings for PERSCare, 24 percent savings for PERS Choice and 15 percent savings for the other Medicare plans as of June 30, 2019, due to the EGWP-Wrap plan design. It was assumed that the EGWP savings would wear away ratably over the next seven years, and the trend rates for post-Medicare prescription benefits were adjusted accordingly.

**Projection Assumptions:** Operating expenses are assumed to be equal to 0.02 percent of CERBT assets at the beginning of the year plus 0.25 percent of expected employer benefit payments during the year. Pre-funding contributions are assumed to increase proportionately until the targeted year that 100 percent of normal costs are required to be made. Benefits are paid from each respective CERBT account when the full-funding actuarial accrued liability is fully financed.

**Closed Group Projections:** The development of the single equivalent discount rate for each respective valuation group was based on a closed group projection of assets and liabilities to determine the plan year that the valuation group is fully funded. For this purpose, we assumed: (i) invested assets would not be used to pay benefits until the valuation group is fully funded, (ii) invested assets would earn 6.75 percent per year and (iii) actuarial liabilities are discounted using a rate of 6.75 percent. The projections do not include liabilities or assets for future members because it is assumed that the normal costs for future members will be fully financed by the sponsor and active members resulting in no unfunded actuarial liability for future members. The total pre-funding contributions, based on the total normal costs for both current members and future members, are not included in this report.

### **Data Processing:**

- An assumption for active dental plan participation was made for all active employees because we are unable to match records between the medical and dental data files. Active members are

## Summary of Actuarial Assumptions and Methods

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assumed to have the following dental coverage: 90 percent DPO/Indemnity, 5 percent Pre-paid Plans, and 5 percent waived.

### Actuarial Method

***The individual entry-age normal actuarial cost method of valuation*** was used in determining liabilities and normal cost. Differences between assumed experience and actual experience (“actuarial gains and/or losses”) become part of actuarial accrued liabilities.

In performing the actuarial valuation using the Entry Age Normal (EAN) method, the same salary scale was used in this actuarial valuation as was used in the pension actuarial valuations for these groups. This results in normal cost dollars that increase at the same rate as the normal cost dollars in the pension actuarial valuation for this same group of people. Normal cost for actives hired after the valuation date was not included in this actuarial valuation and was not factored into the Actuarially Determined Contribution (ADC).

Unfunded actuarial accrued liabilities are amortized from June 30, 2019, for purposes of calculating the ADC to produce payments (principal & interest), which are a level percent of payroll, over a closed 30-year period effective as of June 30, 2017, with 28 years remaining as of June 30, 2019.

## SECTION F

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### PENSION-RELATED ASSUMPTIONS

# Pension-Related Assumptions

## Economic Assumptions:

### Salary Growth

Annual increases vary by entry age and service. See sample rates in table below. Wage inflation assumption is added to these factors for total salary growth.

Annual Percentage Increase						
Duration of Service	State Miscellaneous			Industrial		
	Tier 1 & Tier 2			Entry Age		
	20	30	40	20	30	40
0	6.4%	5.6%	4.4%	7.3%	7.0%	6.4%
3	5.3%	4.4%	3.1%	5.1%	4.7%	3.9%
5	4.3%	3.6%	2.4%	4.0%	3.6%	2.8%
10	2.3%	1.8%	1.2%	2.7%	2.2%	1.4%
15	1.5%	1.2%	0.8%	1.8%	1.5%	1.1%
20	1.0%	0.9%	0.6%	1.2%	1.0%	0.8%
25	0.7%	0.6%	0.4%	0.8%	0.7%	0.6%
30	0.5%	0.4%	0.3%	0.5%	0.5%	0.4%

Duration of Service	Safety			POFF		
	Entry Age			Entry Age		
	20	30	40	20	30	40
0	5.0%	5.0%	5.0%	14.7%	14.7%	14.7%
3	3.1%	3.1%	3.1%	6.7%	6.7%	6.7%
5	2.1%	2.1%	2.1%	4.0%	4.0%	4.0%
10	0.8%	0.8%	0.8%	1.2%	1.2%	1.2%
15	0.7%	0.7%	0.7%	0.5%	0.5%	0.5%
20	0.6%	0.6%	0.6%	1.4%	1.4%	1.4%
25	0.5%	0.5%	0.5%	1.5%	1.5%	1.5%
30	0.5%	0.5%	0.5%	1.0%	1.0%	1.0%

Duration of Service	CHP		
	Entry Age		
	20	30	40
0	6.8%	6.8%	6.8%
3	4.0%	4.0%	4.0%
5	2.4%	2.4%	2.4%
10	1.0%	1.0%	1.0%
15	1.0%	1.0%	1.0%
20	1.8%	1.8%	1.8%
25	2.0%	2.0%	2.0%
30	1.0%	1.0%	1.0%



## Pension-Related Assumptions

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Annual increases for members of JRS I, JRS II and LRS are assumed to be 2.5% for all years of service and ages.

### Overall Payroll Growth

2.50% compounded annually for all members (used in projecting the payroll over which the unfunded liability is amortized). For the State Miscellaneous plan, the payroll of the Second Tier members is assumed to decrease in accordance with actuarial assumptions based on the assumption that all new entrants will elect the State Miscellaneous First Tier. The payroll of the First Tier members is assumed to grow at the rate necessary for the overall payroll of the State Miscellaneous plan to grow annually at a rate of 2.50%.

### Inflation

2.25% compounded annually.

## Pension-Related Assumptions

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### Demographic Assumptions:

#### Age of Spouse

It is assumed that female spouses are three years younger than male spouses.

### Miscellaneous Assumptions:

#### Tier 2 Members Electing Tier 1 Benefits

Tier 2 members of both the State Miscellaneous and State Industrial plans have the right to convert their Tier 2 service to Tier 1 service provided that they make up the shortfall in their accumulated contributions with interest. In this actuarial valuation, we have assumed that all Tier 2 members will elect to convert their Tier 2 service to Tier 1 service.

## Pension-Related Assumptions

### PLAN SPECIFIC ACTUARIAL ASSUMPTIONS

#### STATE MISCELLANEOUS TIER 1 AND TIER 2

##### Service Retirement – Classic Members

Rates vary by age and service. See sample rates in table below.

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	0.007	0.010	0.014	0.019	0.019	0.022	0.029
52	0.013	0.012	0.013	0.018	0.020	0.023	0.031
54	0.011	0.017	0.020	0.030	0.035	0.039	0.049
56	0.023	0.035	0.043	0.062	0.083	0.106	0.165
58	0.027	0.043	0.047	0.074	0.089	0.121	0.170
60	0.037	0.062	0.075	0.119	0.141	0.175	0.246
62	0.087	0.127	0.152	0.221	0.263	0.310	0.356
65	0.090	0.158	0.175	0.245	0.249	0.301	0.344
70	0.140	0.176	0.184	0.223	0.276	0.299	0.299
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

##### Service Retirement – PEPRA Members

Rates vary by age and service. See sample rates in table below.

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000
52	0.009	0.008	0.009	0.013	0.014	0.016	0.022
54	0.008	0.012	0.014	0.021	0.025	0.027	0.034
56	0.016	0.025	0.030	0.043	0.058	0.074	0.116
58	0.020	0.032	0.035	0.056	0.067	0.091	0.128
60	0.030	0.050	0.060	0.095	0.113	0.140	0.197
62	0.070	0.102	0.122	0.177	0.210	0.248	0.285
65	0.081	0.142	0.158	0.221	0.224	0.271	0.310
70	0.140	0.176	0.184	0.223	0.276	0.299	0.299
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

## Pension-Related Assumptions

### STATE MISCELLANEOUS TIER 1 AND TIER 2 (CONTINUED)

#### Termination with Refund

Rates vary by entry age and service. See sample rates in table below.

Duration of Service	Entry Age				
	20	25	30	35	40
0	0.1657	0.1657	0.1512	0.1366	0.1292
1	0.1366	0.1366	0.1216	0.1066	0.0965
2	0.1106	0.1106	0.0965	0.0825	0.0719
3	0.0877	0.0877	0.0760	0.0643	0.0554
4	0.0679	0.0679	0.0600	0.0520	0.0468
5	0.0272	0.0272	0.0223	0.0174	0.0160
10	0.0048	0.0048	0.0043	0.0037	0.0027
15	0.0016	0.0016	0.0012	0.0008	0.0007
20	0.0011	0.0011	0.0008	0.0005	0.0005
25	0.0008	0.0008	0.0006	0.0004	0.0003
30	0.0006	0.0006	0.0004	0.0002	0.0002

#### Terminations with Vested Deferred Benefits

Rates vary by entry age and service. See sample rates in table below.

Duration of Service	Entry Age				
	20	25	30	35	40
5	0.0441	0.0441	0.0394	0.0346	0.0289
6	0.0397	0.0397	0.0357	0.0318	0.0261
7	0.0355	0.0355	0.0322	0.0289	0.0233
8	0.0317	0.0317	0.0288	0.0260	0.0206
9	0.0282	0.0282	0.0257	0.0232	0.0180
10	0.0251	0.0251	0.0227	0.0204	0.0156
14	0.0161	0.0161	0.0137	0.0113	0.0085
15	0.0146	0.0146	0.0122	0.0097	0.0074
19	0.0104	0.0104	0.0079	0.0054	0.0043
20	0.0095	0.0095	0.0071	0.0047	0.0038
24	0.0058	0.0058	0.0037	0.0017	0.0013
25	0.0050	0.0050	0.0029	0.0008	0.0007
29	0.0029	0.0029	0.0015	-	-
30	0.0026	0.0026	0.0013	-	-

## Pension-Related Assumptions

### STATE MISCELLANEOUS TIER 1 AND TIER 2 (CONTINUED)

#### Non-Industrial Death and Disability

Rates vary by age and gender. See sample rates in table below.

Attained Age	Male		Female	
	Non-Industrial Death	Non-Industrial Disability	Non-Industrial Death	Non-Industrial Disability
20	0.00022	0.00019	0.00007	0.00039
25	0.00029	0.00019	0.00011	0.00039
30	0.00038	0.00019	0.00016	0.00046
35	0.00049	0.00036	0.00027	0.00096
40	0.00064	0.00103	0.00037	0.00186
45	0.00080	0.00204	0.00054	0.00326
50	0.00116	0.00274	0.00079	0.00405
55	0.00172	0.00238	0.00120	0.00310
60	0.00255	0.00200	0.00166	0.00256

#### Postretirement Mortality

Rates vary by age and gender for healthy benefit recipients, for non-industrially disabled (disability not job-related) retirees and for retirees who are industrially disabled (disability is job-related). See sample rates in table below.

Age	Healthy Recipients		Non-Industrially Disabled (Not Job-Related)		Industrially Disabled (Job-Related)	
	Male	Female	Male	Female	Male	Female
50	0.00372	0.00346	0.01183	0.01083	0.00372	0.00346
55	0.00437	0.00410	0.01613	0.01178	0.00437	0.00410
60	0.00671	0.00476	0.02166	0.01404	0.00671	0.00476
65	0.00928	0.00637	0.02733	0.01757	0.01113	0.00765
70	0.01339	0.00926	0.03358	0.02183	0.01607	0.01111
75	0.02316	0.01635	0.04277	0.02969	0.02779	0.01962
80	0.03977	0.03007	0.06272	0.04641	0.04773	0.03609
85	0.07122	0.05418	0.09793	0.07847	0.08547	0.06501
90	0.13044	0.10089	0.14616	0.13220	0.14348	0.11098
95	0.21658	0.17698	0.21658	0.21015	0.21658	0.17698
100	0.32222	0.28151	0.32222	0.32226	0.32222	0.28151
105	0.46691	0.43491	0.46691	0.43491	0.46691	0.43491
110	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

The postretirement mortality rates above include 15 years of projected ongoing mortality improvement using 90 percent scale MP-2016 published by the Society of Actuaries.

## Pension-Related Assumptions

### STATE INDUSTRIAL TIER 1 AND TIER 2 (CONTINUED)

#### Service Retirement – Classic Members

Rates vary by age and service. See sample rates in table below.

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	0.006	0.008	0.013	0.019	0.026	0.029	0.036
52	0.007	0.009	0.015	0.023	0.031	0.034	0.043
54	0.014	0.020	0.030	0.046	0.062	0.069	0.086
56	0.028	0.040	0.062	0.094	0.126	0.140	0.174
58	0.029	0.041	0.064	0.098	0.131	0.145	0.181
60	0.042	0.060	0.093	0.142	0.191	0.211	0.262
62	0.079	0.113	0.176	0.266	0.357	0.398	0.493
65	0.081	0.117	0.182	0.276	0.371	0.413	0.511
70	0.097	0.139	0.217	0.329	0.443	0.493	0.611
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

#### Service Retirement – PEPRA Members

Rates vary by age and service. See sample rates in table below.

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000
52	0.005	0.006	0.011	0.016	0.022	0.024	0.030
54	0.010	0.014	0.021	0.032	0.043	0.048	0.060
56	0.020	0.028	0.043	0.066	0.088	0.098	0.122
58	0.022	0.031	0.048	0.074	0.098	0.109	0.136
60	0.034	0.048	0.074	0.114	0.153	0.169	0.210
62	0.063	0.090	0.141	0.213	0.286	0.318	0.394
65	0.073	0.105	0.164	0.248	0.334	0.372	0.460
70	0.097	0.139	0.217	0.329	0.443	0.493	0.611
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

## Pension-Related Assumptions

### STATE INDUSTRIAL TIER 1 AND TIER 2 (CONTINUED)

#### Termination with Refund

Rates vary by service. See sample rates in table below.

Service									
<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
0.0912	0.0190	0.0029	0.0016	0.0010	0.0006	0.0004	0.0002	0.0001	0.0001

#### Terminations with Vested Deferred Benefits

Rates vary by entry age and service. See sample rates in table below.

Duration of Service	Entry Age				
	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>
5	0.0496	0.0449	0.0405	0.0356	0.0311
6	0.0470	0.0421	0.0377	0.0328	0.0281
7	0.0442	0.0393	0.0346	0.0297	0.0250
8	0.0414	0.0365	0.0316	0.0267	0.0220
9	0.0384	0.0335	0.0285	0.0234	0.0187
10	0.0353	0.0302	0.0253	0.0201	-
14	0.0311	0.0257	0.0206	0.0152	-
15	0.0302	0.0246	0.0194	-	-
19	0.0248	0.0190	0.0136	-	-
20	0.0232	0.0176	-	-	-
24	0.0173	0.0115	-	-	-
25	0.0159	-	-	-	-
29	0.0091	-	-	-	-
30	-	-	-	-	-

## Pension-Related Assumptions

### STATE INDUSTRIAL TIER 1 AND TIER 2 (CONTINUED)

#### Non-Industrial Death, Non-Industrial Disability, Industrial Disability & Industrial Death

Non-Industrial Death rates vary by age and gender. Non-Industrial Disability, Industrial Disability and Industrial Death rates vary by age. See sample rates in table below.

Attained Age	Non-Industrial Death		Non-Industrial Disability	Industrial Disability	Industrial Death
	Male	Female	Male and Female	Male and Female	Male and Female
20	0.00022	0.00007	0.00043	0.00015	0.00004
25	0.00029	0.00011	0.00043	0.00015	0.00006
30	0.00038	0.00016	0.00106	0.00015	0.00007
35	0.00049	0.00027	0.00184	0.00029	0.00009
40	0.00064	0.00037	0.00295	0.00029	0.00010
45	0.00080	0.00054	0.00448	0.00044	0.00012
50	0.00116	0.00079	0.00601	0.00044	0.00013
55	0.00172	0.00120	0.00771	0.00058	0.00015
60	0.00255	0.00166	0.00771	0.00058	0.00016

#### Postretirement Mortality

Rates vary by age and gender for healthy benefit recipients, for non-industrially disabled (disability not job-related) retirees and for retirees who are industrially disabled (disability is job-related). See sample rates in table below.

Age	Healthy Recipients		Non-Industrially Disabled (Not Job-Related)		Industrially Disabled (Job-Related)	
	Male	Female	Male	Female	Male	Female
50	0.00372	0.00346	0.01183	0.01083	0.00372	0.00346
55	0.00437	0.00410	0.01613	0.01178	0.00437	0.00410
60	0.00671	0.00476	0.02166	0.01404	0.00671	0.00476
65	0.00928	0.00637	0.02733	0.01757	0.01113	0.00765
70	0.01339	0.00926	0.03358	0.02184	0.01607	0.01112
75	0.02316	0.01635	0.04277	0.02969	0.02779	0.01962
80	0.03977	0.03007	0.06272	0.04641	0.04773	0.03609
85	0.07122	0.05418	0.09793	0.07847	0.08547	0.06501
90	0.13044	0.10089	0.14616	0.13220	0.14348	0.11098
95	0.21658	0.17698	0.21658	0.21015	0.21658	0.17698
100	0.32222	0.28151	0.32222	0.32226	0.32222	0.28151
105	0.46691	0.43491	0.46691	0.43491	0.46691	0.43491
110	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

The postretirement mortality rates above include 15 years of projected ongoing mortality improvement using 90 percent scale MP-2016 published by the Society of Actuaries.





## Pension-Related Assumptions

### STATE SAFETY

#### Service Retirement – Classic Members

Rates vary by age and service. See sample rates in table below.

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	0.008	0.013	0.020	0.030	0.032	0.039	0.045
52	0.008	0.017	0.017	0.030	0.030	0.035	0.044
54	0.016	0.023	0.023	0.034	0.041	0.054	0.099
56	0.032	0.039	0.058	0.109	0.138	0.171	0.231
58	0.035	0.047	0.069	0.109	0.132	0.179	0.256
60	0.048	0.056	0.090	0.154	0.158	0.201	0.257
62	0.084	0.095	0.140	0.239	0.253	0.308	0.356
65	0.111	0.138	0.172	0.249	0.257	0.311	0.359
70	0.137	0.167	0.214	0.281	0.309	0.373	0.401
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

#### Service Retirement – PEPRA Members

Rates vary by age and service. See sample rates in table below.

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	0.007	0.011	0.017	0.026	0.027	0.033	0.038
52	0.007	0.014	0.014	0.026	0.026	0.030	0.037
54	0.012	0.017	0.017	0.026	0.031	0.041	0.074
56	0.024	0.029	0.044	0.082	0.104	0.128	0.173
58	0.028	0.038	0.055	0.087	0.106	0.143	0.205
60	0.043	0.050	0.081	0.139	0.142	0.181	0.231
62	0.067	0.076	0.112	0.191	0.202	0.246	0.285
65	0.100	0.124	0.155	0.224	0.231	0.280	0.323
70	0.137	0.167	0.214	0.281	0.309	0.373	0.401
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

#### Termination with Refund

Rates vary by service. See sample rates in table below.

Service										
0	1	2	3	4	5	10	15	20	25	30
0.1408	0.1014	0.0723	0.0533	0.0444	0.0155	0.0033	0.0019	0.0011	0.0006	0.0004



## Pension-Related Assumptions

### STATE SAFETY (CONTINUED)

#### Terminations with Vested Deferred Benefits

Rates vary by service. See sample rates in table below.

Service										
<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>
0.0246	0.0218	0.0194	0.0173	0.0155	0.0141	0.0097	0.0073	0.0050	0.0034	0.0000

#### Non-Industrial Death, Non-Industrial Disability, Industrial Disability & Industrial Death

Non-Industrial Death rates vary by age and gender. Non-Industrial Disability, Industrial Disability and Industrial Death rates vary by age. See sample rates in table below.

Attained Age	Non-Industrial Death		Non-Industrial Disability	Industrial Disability	Industrial Death
			Male and Female	Male and Female	Male and Female
	Male	Female	Female	Female	Female
20	0.00022	0.00007	0.00036	0.00002	0.00004
25	0.00029	0.00011	0.00054	0.00076	0.00006
30	0.00038	0.00016	0.00063	0.00170	0.00007
35	0.00049	0.00027	0.00072	0.00264	0.00009
40	0.00064	0.00037	0.00072	0.00360	0.00010
45	0.00080	0.00054	0.00108	0.00457	0.00012
50	0.00116	0.00079	0.00201	0.00557	0.00013
55	0.00172	0.00120	0.00240	0.00658	0.00015
60	0.00255	0.00166	0.00320	0.00762	0.00016

## Pension-Related Assumptions

### STATE SAFETY (CONTINUED)

#### Postretirement Mortality

Rates vary by age and gender for healthy benefit recipients and for non-industrially disabled (disability not job-related) retirees. Rates vary by age for retirees who are industrially disabled (disability is job-related). See sample rates in table below.

Age	Healthy Recipients		Non-Industrially Disabled (Not Job-Related)		Industrially Disabled (Job-Related)	
	Male	Female	Male	Female	Male	Female
50	0.00372	0.00346	0.01183	0.01083	0.00372	0.00346
55	0.00437	0.00410	0.01613	0.01178	0.00437	0.00410
60	0.00671	0.00476	0.02166	0.01404	0.00671	0.00476
65	0.00928	0.00637	0.02733	0.01757	0.01113	0.00765
70	0.01339	0.00926	0.03358	0.02184	0.01607	0.01112
75	0.02316	0.01635	0.04277	0.02969	0.02779	0.01962
80	0.03977	0.03007	0.06272	0.04641	0.04773	0.03609
85	0.07122	0.05418	0.09793	0.07847	0.08547	0.06501
90	0.13044	0.10089	0.14616	0.13220	0.14348	0.11098
95	0.21658	0.17698	0.21658	0.21015	0.21658	0.17698
100	0.32222	0.28151	0.32222	0.32226	0.32222	0.28151
105	0.46691	0.43491	0.46691	0.43491	0.46691	0.43491
110	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

The postretirement mortality rates above include 15 years of projected ongoing mortality improvement using 90 percent scale MP-2016 published by the Society of Actuaries.

## Pension-Related Assumptions

### STATE PEACE OFFICERS AND FIREFIGHTERS

#### Service Retirement – Classic Members

Rates vary by age and service. See sample rates in table below.

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	0.012	0.030	0.044	0.109	0.224	0.449	0.467
52	0.012	0.026	0.041	0.096	0.145	0.255	0.257
54	0.021	0.042	0.053	0.118	0.162	0.292	0.306
56	0.031	0.044	0.057	0.135	0.213	0.335	0.345
58	0.020	0.065	0.070	0.158	0.224	0.354	0.354
60	0.035	0.066	0.094	0.179	0.276	0.360	0.367
62	0.067	0.104	0.130	0.221	0.324	0.415	0.440
65	0.065	0.081	0.127	0.231	0.342	0.427	0.453
70	1.000	1.000	1.000	1.000	1.000	1.000	1.000

#### Service Retirement – PEPRA Members

Rates vary by age and service. See sample rates in table below.

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	0.008	0.021	0.031	0.076	0.157	0.314	0.327
52	0.008	0.018	0.029	0.067	0.102	0.179	0.180
54	0.016	0.032	0.040	0.089	0.122	0.219	0.230
56	0.025	0.035	0.046	0.108	0.170	0.268	0.276
58	0.018	0.059	0.063	0.142	0.202	0.319	0.319
60	0.033	0.063	0.089	0.170	0.262	0.342	0.349
62	0.067	0.104	0.130	0.221	0.324	0.415	0.440
65	0.065	0.081	0.127	0.231	0.342	0.427	0.453
70	1.000	1.000	1.000	1.000	1.000	1.000	1.000

#### Termination with Refund

Rates vary by service. See sample rates in table below.

Service										
0	1	2	3	4	5	10	15	20	25	30
0.1217	0.0779	0.0431	0.0353	0.0275	0.0056	0.0039	0.0025	0.0015	0.0006	0.0003



## Pension-Related Assumptions

### STATE PEACE OFFICERS AND FIREFIGHTERS (CONTINUED)

#### Terminations with Vested Deferred Benefits

Rates vary by service. See sample rates in table below.

Service										
<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>
0.0117	0.0115	0.0112	0.0108	0.0103	0.0098	0.0069	0.0049	0.0031	0.0020	0.0000

#### Non-Industrial Death, Non-Industrial Disability, Industrial Disability & Industrial Death

Non-Industrial Death rates vary by age and gender. Non-Industrial Disability, Industrial Disability and Industrial Death rates vary by age. See sample rates in table below.

Attained Age	Non-Industrial Death		Non-Industrial Disability	Industrial Disability	Industrial Death
			Male and Female	Male and Female	Male and Female
	Male	Female	Male and Female	Male and Female	Male and Female
20	0.00022	0.00007	0.00030	0.00039	0.00004
25	0.00029	0.00011	0.00030	0.00087	0.00006
30	0.00038	0.00016	0.00030	0.00167	0.00007
35	0.00049	0.00027	0.00030	0.00289	0.00009
40	0.00064	0.00037	0.00040	0.00464	0.00010
45	0.00080	0.00054	0.00060	0.00706	0.00012
50	0.00116	0.00079	0.00098	0.01027	0.00013
55	0.00172	0.00120	0.00143	0.01442	0.00015
60	0.00255	0.00166	0.00188	0.01966	0.00016

## Pension-Related Assumptions

### STATE PEACE OFFICERS AND FIREFIGHTERS (CONTINUED)

#### Postretirement Mortality

Rates vary by age and gender for healthy benefit recipients, for non-industrially disabled (disability not job-related) retirees and for retirees who are industrially disabled (disability is job-related). See sample rates in table below.

Age	Healthy Recipients		Non-Industrially Disabled (Not Job-Related)		Industrially Disabled (Job-Related)	
	Male	Female	Male	Female	Male	Female
50	0.00372	0.00346	0.01183	0.01083	0.00372	0.00346
55	0.00437	0.00410	0.01613	0.01178	0.00437	0.00410
60	0.00671	0.00476	0.02166	0.01404	0.00671	0.00476
65	0.00928	0.00637	0.02733	0.01757	0.01113	0.00765
70	0.01339	0.00926	0.03358	0.02184	0.01607	0.01112
75	0.02316	0.01635	0.04277	0.02969	0.02779	0.01962
80	0.03977	0.03007	0.06272	0.04641	0.04773	0.03609
85	0.07122	0.05418	0.09793	0.07847	0.08547	0.06501
90	0.13044	0.10089	0.14616	0.13220	0.14348	0.11098
95	0.21658	0.17698	0.21658	0.21015	0.21658	0.17698
100	0.32222	0.28151	0.32222	0.32226	0.32222	0.28151
105	0.46691	0.43491	0.46691	0.43491	0.46691	0.43491
110	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

The postretirement mortality rates above include 15 years of projected ongoing mortality improvement using 90 percent scale MP-2016 published by the Society of Actuaries.

## Pension-Related Assumptions

### CALIFORNIA HIGHWAY PATROL

#### Service Retirement – Classic Members

Rates vary by age and service. See sample rates in table below.

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	0.038	0.038	0.038	0.049	0.107	0.418	0.453
52	0.027	0.027	0.027	0.027	0.093	0.315	0.383
54	0.038	0.038	0.038	0.038	0.124	0.309	0.404
56	0.051	0.051	0.051	0.084	0.139	0.350	0.380
58	0.049	0.049	0.049	0.049	0.171	0.338	0.350
60	1.000	1.000	1.000	1.000	1.000	1.000	1.000

#### Service Retirement – PEPRA Members

Rates vary by age and service. See sample rates in table below.

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	0.027	0.027	0.027	0.034	0.075	0.293	0.317
52	0.020	0.020	0.020	0.020	0.070	0.236	0.287
54	0.030	0.030	0.030	0.030	0.099	0.247	0.323
56	0.043	0.043	0.043	0.071	0.118	0.298	0.323
58	0.044	0.044	0.044	0.044	0.154	0.304	0.315
60	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

#### Termination with Refund

Rates vary by service. See sample rates in table below.

Service										
<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>
0.1050	0.0243	0.0152	0.0091	0.0054	0.0029	0.0005	0.0003	0.0002	0.0002	0.0002

## Pension-Related Assumptions

### CALIFORNIA HIGHWAY PATROL (CONTINUED)

#### Terminations with Vested Deferred Benefits

Rates vary by service. See sample rates in table below.

Service										
<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>
0.0090	0.0084	0.0079	0.0075	0.0071	0.0067	0.0049	0.0034	0.0023	0.0010	0.0000

When a member is eligible to retire, the termination with vested benefits probability is set to zero.

#### Non-Industrial Death and Disability & Industrial Death and Disability

Non-Industrial Death rates vary by age and gender. Non-Industrial Disability, Industrial Disability and Industrial Death rates vary by age. See sample rates in table below.

Attained Age	Non-Industrial Death		Non-Industrial Disability	Industrial Disability	Industrial Death
			Male and Female	Male and Female	Male and Female
	Male	Female	Male and Female	Male and Female	Male and Female
20	0.00022	0.00007	0.00010	0.00016	0.00004
25	0.00029	0.00011	0.00010	0.00035	0.00006
30	0.00038	0.00016	0.00010	0.00068	0.00007
35	0.00049	0.00027	0.00010	0.00122	0.00009
40	0.00064	0.00037	0.00010	0.00202	0.00010
45	0.00080	0.00054	0.00020	0.00316	0.00012
50	0.00116	0.00079	0.00020	0.01214	0.00013
55	0.00172	0.00120	0.00020	0.05407	0.00015
60	0.00255	0.00166	0.00020	0.20431	0.00016



## Pension-Related Assumptions

### CALIFORNIA HIGHWAY PATROL (CONTINUED)

#### Postretirement Mortality

Rates vary by age and gender for healthy benefit recipients, for non-industrially disabled (disability not job-related) retirees and for retirees who are industrially disabled (disability is job-related). See sample rates in table below.

Age	Healthy Recipients		Non-Industrially Disabled (Not Job-Related)		Industrially Disabled (Job-Related)	
	Male	Female	Male	Female	Male	Female
50	0.00372	0.00346	0.01183	0.01083	0.00372	0.00346
55	0.00437	0.00410	0.01613	0.01178	0.00437	0.00410
60	0.00671	0.00476	0.02166	0.01404	0.00671	0.00476
65	0.00928	0.00637	0.02733	0.01757	0.01113	0.00765
70	0.01339	0.00926	0.03358	0.02184	0.01607	0.01112
75	0.02316	0.01635	0.04277	0.02969	0.02779	0.01962
80	0.03977	0.03007	0.06272	0.04641	0.04773	0.03609
85	0.07122	0.05418	0.09793	0.07847	0.08547	0.06501
90	0.13044	0.10089	0.14616	0.13220	0.14348	0.11098
95	0.21658	0.17698	0.21658	0.21015	0.21658	0.17698
100	0.32222	0.28151	0.32222	0.32226	0.32222	0.28151
105	0.46691	0.43491	0.46691	0.43491	0.46691	0.43491
110	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

The postretirement mortality rates above include 15 years of projected ongoing mortality improvement using 90 percent scale MP-2016 published by the Society of Actuaries.

## Pension-Related Assumptions

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### JUDGES' RETIREMENT SYSTEM I

#### Probability of Termination from Active Service

No pre-retirement termination or disability rates were assumed.

#### Service Retirement

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
60	0.20	68	0.20
61	0.20	69	0.30
62	0.20	70	0.10
63	0.20	71	0.10
64	0.20	72-79	0.20
65	0.20	80-84	0.30
66	0.20	85-89	0.50
67	0.20	>89	1.00

#### Mortality

The mortality assumptions are based on mortality rates resulting from the most recent CalPERS Experience Study adopted by the CalPERS Board. For purposes of the mortality rates, the revised rates include 15 years of projected ongoing mortality improvement using 90 percent of Scale MP 2016 published by the Society of Actuaries.

## Pension-Related Assumptions

### JUDGES' RETIREMENT SYSTEM II

#### Service Retirement

Rates vary by age and service.

##### Service Greater than 20 Years

<u>Age</u>	<u>Rate</u>
Below 65	0.0000
65	0.7500
66	0.4000
67	0.3000
68	0.3500
69	0.5000
70*	1.0000

\* For Judges age 70 and older with 5 or more years of service the probability of retirement is 100 percent.

#### Withdrawal

Rates vary by age and service.

<u>Entry Age</u>	<u>0-1</u>	<u>1-2</u>	<u>2-3</u>	<u>3-4</u>	<u>4-5</u>	<u>5 or more</u>
35	0.0053	0.0053	0.0053	0.0053	0.0053	0.0023
40	0.0045	0.0045	0.0045	0.0045	0.0045	0.0038
45	0.0038	0.0038	0.0038	0.0038	0.0038	0.0075
50	0.0038	0.0038	0.0038	0.0038	0.0038	0.0090
55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0083
60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0075

#### Pre-Retirement Non-Industrial Mortality

Rates vary by age.

## Pension-Related Assumptions

### JUDGES' RETIREMENT SYSTEM II (CONTINUED)

#### Non-Industrial Disability and Pre-Retirement Mortality

Rates vary by age.

Attained Age	Pre- Retirement Mortality Male	Pre- Retirement Mortality Female	Non- Industrial Disability
35	0.0005	0.0003	0.0000
40	0.0006	0.0004	0.0010
45	0.0008	0.0005	0.0019
50	0.0012	0.0008	0.0032
55	0.0017	0.0012	0.0054
60	0.0026	0.0017	0.0085
65	0.0036	0.0023	0.0122
70	0.0062	0.0039	0.0000

#### Industrial Mortality

Rates are zero.

#### Industrial Disability

Rates are zero.

#### Post-Retirement Mortality:

Rates vary by age and sex.

Age	Healthy Male	Healthy Female	Non- Industrial Disability Male	Non- Industrial Disability Female	Age	Healthy Male	Healthy Female	Non- Industrial Disability Male	Non- Industrial Disability Female
35	0.0005	0.0003	0.0005	0.0003	75	0.0232	0.0164	0.0428	0.0297
40	0.0006	0.0004	0.0006	0.0004	80	0.0398	0.0301	0.0627	0.0464
45	0.0008	0.0005	0.0008	0.0005	85	0.0712	0.0542	0.0979	0.0785
50	0.0037	0.0035	0.0118	0.0108	90	0.1304	0.1009	0.1462	0.1322
55	0.0044	0.0041	0.0161	0.0112	95	0.2166	0.1770	0.2166	0.2102
60	0.0067	0.0048	0.0217	0.0140	100	0.3222	0.2815	0.3222	0.3223
65	0.0093	0.0064	0.0273	0.0176	105	0.4669	0.4349	0.4669	0.4349
70	0.0134	0.0093	0.0336	0.0218	110	1.0000	1.0000	1.0000	1.0000

The postretirement mortality rates above include 15 years of projected ongoing mortality improvement using 90 percent scale MP-2016 published by the Society of Actuaries.



## Pension-Related Assumptions

### Legislators' Retirement System

#### Probabilities of Decrement for Active Participants

Vested Withdrawal – Sample vested withdrawal rates are shown in the following table.

Disability – Sample disability rates are shown in the following table.

Non-vested Withdrawal – Sample rates for non-vested withdrawal are shown in the following table.

For each 1,000 active participants at the age shown, the following number will leave within a year on account of:

<u>Age</u>	<u>Vested Withdrawal</u>	<u>Disability</u>	<u>Non-Vested Withdrawal</u>
30	50.0	0.1	25.0
35	50.0	0.2	25.0
40	50.0	0.7	20.0
41	50.0	0.8	15.0
42	40.0	0.9	15.0
43	40.0	1.0	15.0
44	40.0	1.1	15.0
45	40.0	1.2	15.0
46	40.0	1.3	15.0
47	40.0	1.5	15.0
48	40.0	1.7	15.0
49	40.0	1.9	15.0
50	40.0	2.2	10.0
51	40.0	2.5	5.0
52	40.0	3.0	0.0
53	40.0	3.6	0.0
54	40.0	4.3	0.0
55	40.0	5.0	0.0
56	40.0	5.8	0.0
57	40.0	6.7	0.0
58	40.0	7.5	0.0
59	40.0	8.4	0.0
60	40.0	9.5	0.0

## Pension-Related Assumptions

### Legislators' Retirement System (CONTINUED)

#### Pre-Retirement Non-Industrial Mortality

Rates vary by age and sex.

#### Mortality Rates after Leaving Active Participation

The mortality assumptions are based on mortality rates resulting from the most recent CalPERS Experience Study adopted by the CalPERS Board. For purposes of the postretirement mortality rates, the revised rates include 20 years of projected ongoing mortality improvement using Scale BB published by the Society of Actuaries.

	Healthy	Healthy	Disability	Disability		Healthy	Healthy	Disability	Disability
<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
35	0.0005	0.0003	0.0005	0.0003	75	0.0232	0.0164	0.0428	0.0297
40	0.0006	0.0004	0.0006	0.0004	80	0.0398	0.0301	0.0627	0.0464
45	0.0008	0.0005	0.0008	0.0005	85	0.0712	0.0542	0.0979	0.0785
50	0.0037	0.0035	0.0118	0.0108	90	0.1304	0.1009	0.1462	0.1322
55	0.0044	0.0041	0.0161	0.0112	95	0.2166	0.1770	0.2166	0.2102
60	0.0067	0.0048	0.0217	0.0140	100	0.3222	0.2815	0.3222	0.3223
65	0.0093	0.0064	0.0273	0.0176	105	0.4669	0.4349	0.4669	0.4349
70	0.0134	0.0093	0.0336	0.0218	110	1.0000	1.0000	1.0000	1.0000

The postretirement mortality rates above include 15 years of projected ongoing mortality improvement using 90 percent scale MP-2016 published by the Society of Actuaries.

# APPENDIX A

## GLOSSARY

## Glossary

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<b>Accrued Service</b>	Service credited under the system that was rendered before the date of the actuarial valuation.
<b>Actuarial Accrued Liability (AAL)</b>	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
<b>Actuarial Assumptions</b>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income, and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation, and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<b>Actuarial Cost Method</b>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the OPEB trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<b>Actuarial Equivalent</b>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<b>Actuarial Gain (Loss)</b>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<b>Actuarial Present Value (APV)</b>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<b>Actuarial Valuation</b>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total OPEB liability, and related actuarial present value of projected benefit payments for OPEB.
<b>Actuarial Valuation Assets</b>	The actuarial valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 74 and 75, the actuarial valuation assets are equal to the market value of assets.
<b>Actuarial Valuation Date</b>	The date as of which an actuarial valuation is performed.
<b>Actuarially Determined Contribution (ADC)</b>	A calculated contribution into an OPEB plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.



## Glossary

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<b>Amortization Method</b>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
<b>Amortization Payment</b>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<b>Cost-of-Living Adjustments</b>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<b>Cost-Sharing Multiple-Employer Defined Benefit OPEB Plan (cost-sharing OPEB plan)</b>	A multiple-employer defined benefit OPEB plan in which the OPEB obligations to the employees of more than one employer are pooled and OPEB plan assets can be used to pay the benefits of the employees of any employer that provides benefits through the OPEB plan.
<b>Covered-Employee Payroll</b>	The payroll of employees that are provided with benefits through the OPEB plan.
<b>Deferred Inflows and Outflows</b>	The deferred inflows and outflows of OPEB resources are amounts used under GASB Statement No. 74 in developing the annual OPEB expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in the OPEB expense should be included in the deferred inflows or outflows of resources.
<b>Discount Rate</b>	<p>For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically:</p> <ol style="list-style-type: none"><li>1. The benefit payments to be made while the OPEB plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and</li><li>2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.</li></ol>
<b>Entry Age Actuarial Cost Method (EAN)</b>	The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to an actuarial valuation year is the normal cost. The portion of this actuarial present value not provided for at an actuarial valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
<b>Fiduciary Net Position</b>	The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.

## Glossary

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<b>GASB</b>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<b>Long-Term Expected Rate of Return</b>	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
<b>Money-Weighted Rate of Return</b>	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 74, the money-weighted rate of return is calculated as the internal rate of return on OPEB plan investments, net of OPEB plan investment expense.
<b>Multiple-Employer Defined Benefit OPEB Plan</b>	A multiple-employer plan is a defined benefit OPEB plan that is used to provide OPEB payments to the employees of more than one employer.
<b>Municipal Bond Rate</b>	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
<b>Net OPEB Liability (NOL)</b>	The NOL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit OPEB plan.
<b>Non-Employer Contributing Entities</b>	Non-employer contributing entities are entities that make contributions to an OPEB plan that is used to provide OPEB payments to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities.
<b>Normal Cost</b>	The portion of the actuarial present value allocated to an actuarial valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.
<b>Other Postemployment Benefits (OPEB)</b>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
<b>Real Rate of Return</b>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<b>Service Cost</b>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to an actuarial valuation year.

## Glossary

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### **Total OPEB Expense**

The total OPEB expense is the sum of the following items that are recognized at the end of the employer's fiscal year:

1. Service Cost
2. Interest on the Total OPEB Liability
3. Current-Period Benefit Changes
4. Employee Contributions (made negative for addition here)
5. Projected Earnings on Plan Investments (made negative for addition here)
6. OPEB Plan Administrative Expense
7. Other Changes in Plan Fiduciary Net Position
8. Recognition of Outflow (Inflow) of Resources due to Liabilities
9. Recognition of Outflow (Inflow) of Resources due to Assets

### **Total OPEB Liability (TOL)**

The TOL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.

### **Unfunded Actuarial Accrued Liability (UAAL)**

The UAAL is the difference between actuarial accrued liability and actuarial valuation assets.

### **Actuarial Valuation Assets**

The actuarial valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 74 and 75, the actuarial valuation assets are equal to the market value of assets.

## APPENDIX B

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### INDIVIDUAL ACTUARIAL VALUATION RESULTS

## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>BARGAINING UNIT NUMBER 2</b> <b>ATTORNEYS AND HEARING OFFICERS</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	4,404	4,488
Retired Participants <sup>a</sup>	<u>2,451</u>	<u>2,560</u>
Total Participants	6,855	7,048
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 548,737	\$ 559,423
Retired Participants	<u>413,628</u>	<u>460,531</u>
Total Participants	\$ 962,365	\$ 1,019,954
Actuarial Accrued Liability		
Active Participants	\$ 359,124	\$ 365,667
Retired Participants	<u>413,628</u>	<u>460,531</u>
Total Participants	\$ 772,752	\$ 826,198
Actuarial Value of Assets	\$ 18,143	\$ 33,800
Unfunded Actuarial Accrued Liability	\$ 754,609	\$ 792,398
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 20,868	\$ 21,055
Administrative Expenses	73	81
Amortization of UAAL	<u>43,357</u>	<u>46,435</u>
Total ADC	\$ 64,298	\$ 67,571
Estimated Member Contributions	<u>(5,235)</u>	<u>(7,926)</u>
Net Employer ADC	\$ 59,063	\$ 59,645
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 18,949	\$ 19,607
Part B Reimbursement	5,045	5,580
Dental Claims	<u>1,589</u>	<u>1,664</u>
Total	\$ 25,583	\$ 26,851
Employer Implicit Costs	<u>3,449</u>	<u>5,487</u>
Total Employer Costs	\$ 29,032	\$ 32,338
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 1,450	\$ 1,549
Dental Claims	<u>505</u>	<u>522</u>
Total	\$ 1,955	\$ 2,071
Total Claims Costs	\$ 30,987	\$ 34,409

<sup>a</sup>Retired participants with dental only coverage, 148 as of July 1, 2018, and 157 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
BARGAINING UNIT NUMBER 2  
ATTORNEYS AND HEARING OFFICERS

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2046

FYE	Assets (bo)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eo)	Accrued Liability (eo)	Funded Ratio	Normal Cost
2019	\$ 18,130	\$ -	\$ 5	\$ 13,778	\$ 1,897	\$ 33,800	\$ 826,198	4.1%	\$ 21,055
2020	33,800	-	81	15,852	2,805	52,376	871,013	6.0%	20,216
2021	52,376	-	90	20,306	4,207	76,799	914,211	8.4%	19,457
2022	76,799	-	99	19,557	5,830	102,087	955,563	10.7%	18,716
2023	102,087	-	109	18,825	7,512	128,315	994,925	12.9%	17,995
2024	128,315	-	119	18,114	9,259	155,569	1,032,106	15.1%	17,301
2025	155,569	-	129	17,430	11,075	183,945	1,067,034	17.2%	16,630
2026	183,945	-	138	16,768	12,968	213,543	1,099,799	19.4%	15,978
2027	213,543	-	147	16,124	14,945	244,465	1,130,436	21.6%	15,330
2028	244,465	-	155	15,485	17,010	276,805	1,158,956	23.9%	14,697
2029	276,805	-	163	14,861	19,172	310,675	1,185,357	26.2%	14,076
2030	310,675	-	172	14,247	21,438	346,188	1,209,438	28.6%	13,454
2031	346,188	-	180	13,634	23,814	383,456	1,231,152	31.1%	12,841
2032	383,456	-	187	13,029	26,310	422,608	1,250,468	33.8%	12,222
2033	422,608	-	195	12,417	28,932	463,762	1,267,232	36.6%	11,593
2034	463,762	-	203	11,796	31,689	507,044	1,281,315	39.6%	10,958
2035	507,044	-	210	11,168	34,589	552,591	1,292,741	42.7%	10,304
2036	552,591	-	217	10,521	37,642	600,537	1,301,391	46.1%	9,630
2037	600,537	-	224	9,854	40,856	651,023	1,307,033	49.8%	8,939
2038	651,023	-	230	9,170	44,241	704,204	1,309,530	53.8%	8,240
2039	704,204	-	237	8,477	47,807	760,251	1,308,881	58.1%	7,537
2040	760,251	-	242	7,780	51,567	819,356	1,305,097	62.8%	6,829
2041	819,356	-	247	7,076	55,533	881,718	1,298,256	67.9%	6,119
2042	881,718	-	252	6,371	59,719	947,556	1,288,315	73.5%	5,419
2043	947,556	-	256	5,675	64,140	1,017,115	1,275,273	79.8%	4,740
2044	1,017,115	-	259	4,999	68,813	1,090,668	1,259,389	86.6%	4,087
2045	1,090,668	-	261	4,348	73,756	1,168,511	1,240,869	94.2%	3,470
2046	1,168,511	16,888	263	3,733	78,429	1,233,522	1,219,811	101.1%	2,896
2047	1,233,522	105,272	263	-	79,759	1,207,746	1,196,463	100.9%	2,370
2048	1,207,746	105,250	263	-	78,020	1,180,253	1,171,000	100.8%	1,897
2049	1,180,253	105,009	263	-	76,172	1,151,153	1,143,563	100.7%	1,481
2050	1,151,153	104,382	261	-	74,229	1,120,739	1,114,480	100.6%	1,129
2051	1,120,739	103,575	259	-	72,202	1,089,107	1,083,894	100.5%	842
2052	1,089,107	102,524	256	-	70,102	1,056,429	1,052,022	100.4%	615
2053	1,056,429	101,098	253	-	67,944	1,023,022	1,019,230	100.4%	440
2054	1,023,022	99,637	249	-	65,738	988,874	985,550	100.3%	311
2055	988,874	98,193	245	-	63,481	953,917	950,950	100.3%	217
2056	953,917	96,634	242	-	61,173	918,214	915,525	100.3%	150
2057	918,214	95,071	238	-	58,815	881,720	879,254	100.3%	103

# Individual Actuarial Valuation Results

**CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM**  
**DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S)**  
**BARGAINING UNIT NUMBER 2**  
**ATTORNEYS AND HEARING OFFICERS**

20-Year GO Municipal Bond Rate at June 30, 2019                      3.130%  
 Long-Term Investment Return    6.750%  
 Year Plan is Fully Funded    2046  
 Single Equivalent Rate    3.711%

Present Value of Benefits    \$                      1,801,644    \$                      1,801,644

FYE	Net Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 32,338	3.130%	0.98471	\$ 31,843	3.711%	0.98194	\$ 31,753
2021	35,964	3.130%	0.95482	34,339	3.711%	0.94681	34,051
2022	39,789	3.130%	0.92584	36,839	3.711%	0.91293	36,325
2023	43,650	3.130%	0.89774	39,186	3.711%	0.88026	38,423
2024	47,588	3.130%	0.87050	41,425	3.711%	0.84876	40,391
2025	51,478	3.130%	0.84408	43,452	3.711%	0.81839	42,129
2026	55,161	3.130%	0.81846	45,147	3.711%	0.78910	43,528
2027	58,687	3.130%	0.79362	46,575	3.711%	0.76086	44,653
2028	62,066	3.130%	0.76953	47,762	3.711%	0.73364	45,534
2029	65,329	3.130%	0.74618	48,747	3.711%	0.70739	46,213
2030	68,656	3.130%	0.72353	49,675	3.711%	0.68207	46,828
2031	71,877	3.130%	0.70157	50,427	3.711%	0.65767	47,271
2032	74,984	3.130%	0.68028	51,010	3.711%	0.63413	47,550
2033	78,076	3.130%	0.65963	51,501	3.711%	0.61144	47,739
2034	81,116	3.130%	0.63961	51,883	3.711%	0.58956	47,823
2035	83,952	3.130%	0.62020	52,067	3.711%	0.56846	47,724
2036	86,711	3.130%	0.60138	52,146	3.711%	0.54812	47,528
2037	89,491	3.130%	0.58313	52,185	3.711%	0.52851	47,297
2038	92,191	3.130%	0.56543	52,127	3.711%	0.50959	46,980
2039	94,677	3.130%	0.54827	51,908	3.711%	0.49136	46,520
2040	96,943	3.130%	0.53163	51,538	3.711%	0.47378	45,930
2041	98,924	3.130%	0.51549	50,995	3.711%	0.45682	45,191
2042	100,746	3.130%	0.49985	50,357	3.711%	0.44048	44,376
2043	102,374	3.130%	0.48468	49,618	3.711%	0.42471	43,480
2044	103,573	3.130%	0.46997	48,676	3.711%	0.40952	42,415
2045	104,413	3.130%	0.45570	47,581	3.711%	0.39486	41,229
2046	105,023	3.130%	0.44187	46,407	3.711%	0.38073	39,986
2047	105,272	6.750%	0.41393	43,576	3.711%	0.36711	38,646
2048	105,250	6.750%	0.38776	40,812	3.711%	0.35397	37,256
2049	105,009	6.750%	0.36324	38,144	3.711%	0.34130	35,840
2050	104,382	6.750%	0.34027	35,518	3.711%	0.32909	34,351
2051	103,575	6.750%	0.31876	33,015	3.711%	0.31732	32,866
2052	102,524	6.750%	0.29860	30,614	3.711%	0.30596	31,368
2053	101,098	6.750%	0.27972	28,279	3.711%	0.29501	29,825
2054	99,637	6.750%	0.26203	26,108	3.711%	0.28446	28,342
2055	98,193	6.750%	0.24546	24,103	3.711%	0.27428	26,932
2056	96,634	6.750%	0.22994	22,220	3.711%	0.26446	25,556
2066	76,429	6.750%	0.11966	9,145	3.711%	0.18370	14,040
2076	39,140	6.750%	0.06227	2,437	3.711%	0.12760	4,994
2086	8,005	6.750%	0.03240	259	3.711%	0.08863	709
2096	357	6.750%	0.01686	6	3.711%	0.06157	22
2106	16	6.750%	0.00877	-	3.711%	0.04276	1
2116	-	6.750%	0.00457	-	3.711%	0.02970	-

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) BARGAINING UNIT NUMBER 2 ATTORNEYS AND HEARING OFFICERS			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 56,706	\$ 49,771	\$ 44,164
Interest on Total OPEB Liability	44,801	50,488	48,322
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(91,108)	(923)
Changes of Assumptions	(120,350)	(50,429)	36,206
Benefit Payments	(26,821)	(28,844)	(30,621)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (45,664)</b>	<b>\$ (70,122)</b>	<b>\$ 97,148</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 1,273,480</b>	<b>\$ 1,227,816</b>	<b>\$ 1,157,694</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 1,227,816</b>	<b>\$ 1,157,694</b>	<b>\$ 1,254,842</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 26,821	\$ 28,844	\$ 30,621
Employer Pre-Funding Contributions	-	3,165	6,889
Active Member Contributions	-	3,165	6,889
Net Investment Income	-	951	1,897
Benefit Payments	(26,821)	(28,844)	(30,621)
Administrative Expense	-	(7)	(5)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ -</b>	<b>\$ 7,274</b>	<b>\$ 15,670</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ 10,869</b>	<b>\$ 18,130</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ -</b>	<b>\$ 18,143</b>	<b>\$ 33,800</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 1,227,816</b>	<b>\$ 1,139,551</b>	<b>\$ 1,221,042</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.000%</b>	<b>1.567%</b>	<b>2.694%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 63,906</b>	<b>\$ 62,658</b>	<b>\$ 57,409</b>
<b>Employer Contribution</b>	<b>\$ 26,821</b>	<b>\$ 32,009</b>	<b>\$ 37,510</b>
<b>Percentage of ADC made by Employer</b>	<b>42%</b>	<b>51%</b>	<b>65%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (37,085)</b>	<b>\$ (30,649)</b>	<b>\$ (19,899)</b>
<b>Expected Return on Assets</b>	<b>\$ -</b>	<b>\$ 1,017</b>	<b>\$ 1,743</b>
<b>Investment (Gain)/Loss</b>	<b>\$ -</b>	<b>\$ 66</b>	<b>\$ (154)</b>
<b>Average Expected Remaining Service</b>	<b>6.824846</b>	<b>7.207062</b>	<b>7.249983</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.402%</b>	<b>3.996%</b>	<b>4.072%</b>
<b>Blended Discount Rate End of Year</b>	<b>3.996%</b>	<b>4.072%</b>	<b>3.711%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>



## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S) BARGAINING UNIT NUMBER 2 ATTORNEYS AND HEARING OFFICERS		
Measured for the Plan's Fiscal Year Ending	June 30, 2018	June 30, 2019
Applicable for the Sponsor's Fiscal Year Ending	June 30, 2019	June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 49,771	\$ 44,164
Interest on the Total OPEB Liability	50,488	48,322
Current-Period Benefit Changes	-	-
Active Member Contributions	(3,165)	(6,889)
Projected Earnings on Plan Investments	(1,017)	(1,743)
Operating Expenses	7	5
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(12,641)	(12,768)
Recognition of Outflow/(Inflow) due to Assumption Changes	(24,631)	(19,637)
Recognition of Outflow/(Inflow) due to Investment Experience	13	(18)
<b>Net OPEB Expense</b>	<b>\$ 58,825</b>	<b>\$ 51,436</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 1,216,947</b>	<b>\$ 1,139,564</b>
OPEB Expense	58,825	51,436
Employer Contributions	(32,009)	(37,510)
Change in Outflow/(Inflow) due to Non-investment Experience	(78,467)	11,845
Change in Outflow/(Inflow) due to Assumption Changes	(25,798)	55,843
Change in Outflow/(Inflow) due to Investment Experience	53	(136)
<b>Net OPEB Liability End of Year</b>	<b>\$ 1,139,551</b>	<b>\$ 1,221,042</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (78,467)	\$ (66,622)
Assumption Changes	\$ (128,514)	\$ (103,883)
Investment Experience	\$ -	\$ (123)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ -
Assumption Changes	\$ -	\$ 31,212
Investment Experience	\$ 53	\$ 40
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	4.072%	3.711%
Baseline Discount Rate and Trend Rates	\$ 1,139,551	\$ 1,221,042
Increase Discount Rate by One Percentage Point	\$ 981,552	\$ 1,049,735
Decrease Discount Rate by One Percentage Point	\$ 1,335,619	\$ 1,433,811
Increase Trend Rate by One Percentage Point	\$ 1,317,535	\$ 1,454,585
Decrease Trend Rate by One Percentage Point	\$ 998,562	\$ 1,037,195

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) BARGAINING UNIT NUMBER 2 ATTORNEYS AND HEARING OFFICERS									
Valuation Date	6/30/2019								
Measurement Date	6/30/2019								
	Non-Investment Experience			Assumption Changes			Investment Experience		
Plan Year Beginning	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
7/1/2016	\$ -	6.824846	\$ -	\$ (120,350)	6.824846	\$ (17,634)	\$ -	5.000000	\$ -
7/1/2017	\$ (91,108)	7.207062	\$ (12,641)	\$ (50,429)	7.207062	\$ (6,997)	\$ 66	5.000000	\$ 13
7/1/2018	\$ (923)	7.249983	\$ (127)	\$ 36,206	7.249983	\$ 4,994	\$ (154)	5.000000	\$ (31)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ -	\$ (12,768)	\$ (12,768)	\$ 4,994	\$ (24,631)	\$ (19,637)	\$ 13	\$ (31)	\$ (18)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ -	\$ (12,768)	\$ (12,768)	\$ 4,994	\$ (24,631)	\$ (19,637)	\$ 13	\$ (31)	\$ (18)
6/30/2021	\$ -	\$ (12,768)	\$ (12,768)	\$ 4,994	\$ (24,631)	\$ (19,637)	\$ 13	\$ (31)	\$ (18)
6/30/2022	\$ -	\$ (12,768)	\$ (12,768)	\$ 4,994	\$ (24,631)	\$ (19,637)	\$ 14	\$ (31)	\$ (17)
6/30/2023	\$ -	\$ (12,768)	\$ (12,768)	\$ 4,994	\$ (21,543)	\$ (16,549)	\$ -	\$ (30)	\$ (30)
6/30/2024	\$ -	\$ (12,768)	\$ (12,768)	\$ 4,994	\$ (6,997)	\$ (2,003)	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ (2,748)	\$ (2,748)	\$ 4,994	\$ (1,450)	\$ 3,544	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ (34)	\$ (34)	\$ 1,248	\$ -	\$ 1,248	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ (66,622)	\$ (66,622)	\$ 31,212	\$ (103,883)	\$ (72,671)	\$ 40	\$ (123)	\$ (83)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ 11,845			\$ 55,843			\$ (136)

## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>BARGAINING UNIT NUMBER 5</b> <b>HIGHWAY PATROL</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	7,461	7,392
Retired Participants <sup>a</sup>	<u>6,598</u>	<u>6,776</u>
Total Participants	14,059	14,168
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 1,812,674	\$ 1,940,074
Retired Participants	<u>1,836,283</u>	<u>2,027,966</u>
Total Participants	\$ 3,648,957	\$ 3,968,040
Actuarial Accrued Liability		
Active Participants	\$ 1,127,761	\$ 1,222,227
Retired Participants	<u>1,836,283</u>	<u>2,027,966</u>
Total Participants	\$ 2,964,044	\$ 3,250,193
Actuarial Value of Assets	\$ 331,292	\$ 416,319
Unfunded Actuarial Accrued Liability	\$ 2,632,752	\$ 2,833,874
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 63,151	\$ 67,142
Administrative Expenses	269	299
Amortization of UAAL	<u>151,270</u>	<u>166,065</u>
Total ADC	\$ 214,690	\$ 233,506
Estimated Member Contributions	<u>(4,065)</u>	<u>(4,323)</u>
Net Employer ADC	\$ 210,625	\$ 229,183
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 80,294	\$ 84,922
Part B Reimbursement	8,154	8,937
Dental Claims	<u>4,665</u>	<u>5,044</u>
Total	\$ 93,113	\$ 98,903
Employer Implicit Costs	<u>14,525</u>	<u>20,816</u>
Total Employer Costs	\$ 107,638	\$ 119,719
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 2,443	\$ 2,307
Dental Claims	<u>1,488</u>	<u>1,513</u>
Total	\$ 3,931	\$ 3,820
Total Claims Costs	\$ 111,569	\$ 123,539

<sup>a</sup>Retired participants with dental only coverage, 65 as of July 1, 2018, and 67 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
BARGAINING UNIT NUMBER 5  
HIGHWAY PATROL

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2046

FYE	Assets (bo)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ 331,052	\$ -	\$ 77	\$ 61,510	\$ 23,834	\$ 416,319	\$ 3,250,193	12.8%	\$ 67,142
2020	416,319	-	299	67,442	30,331	513,793	3,417,500	15.0%	67,732
2021	513,793	-	320	68,053	36,930	618,456	3,587,962	17.2%	68,016
2022	618,456	-	347	68,362	44,004	730,475	3,759,460	19.4%	67,862
2023	730,475	-	374	68,236	51,560	849,897	3,931,182	21.6%	67,235
2024	849,897	-	403	67,638	59,600	976,732	4,101,739	23.8%	66,199
2025	976,732	-	432	66,631	68,127	1,111,058	4,270,498	26.0%	64,873
2026	1,111,058	-	462	65,334	77,150	1,253,080	4,437,175	28.2%	63,358
2027	1,253,080	-	489	63,847	86,686	1,403,124	4,602,130	30.5%	61,639
2028	1,403,124	-	518	62,157	96,757	1,561,520	4,764,423	32.8%	59,648
2029	1,561,520	-	549	60,197	107,383	1,728,551	4,922,792	35.1%	57,421
2030	1,728,551	-	581	58,003	118,583	1,904,556	5,076,137	37.5%	55,050
2031	1,904,556	-	613	55,663	130,385	2,089,991	5,223,982	40.0%	52,626
2032	2,089,991	-	647	53,273	142,821	2,285,438	5,365,173	42.6%	50,104
2033	2,285,438	-	682	50,785	155,930	2,491,471	5,499,055	45.3%	47,385
2034	2,491,471	-	716	48,102	169,747	2,708,604	5,624,734	48.2%	44,452
2035	2,708,604	-	753	45,205	184,307	2,937,363	5,740,704	51.2%	41,209
2036	2,937,363	-	790	41,999	199,640	3,178,212	5,845,572	54.4%	37,694
2037	3,178,212	-	827	38,521	215,781	3,431,687	5,938,582	57.8%	34,069
2038	3,431,687	-	863	34,932	232,770	3,698,526	6,019,059	61.4%	30,614
2039	3,698,526	-	897	31,512	250,667	3,979,808	6,087,175	65.4%	27,509
2040	3,979,808	-	929	28,438	269,550	4,276,867	6,143,250	69.6%	24,647
2041	4,276,867	-	961	25,608	289,507	4,591,021	6,187,008	74.2%	21,881
2042	4,591,021	-	992	22,873	310,620	4,923,522	6,218,028	79.2%	19,058
2043	4,923,522	-	1,022	20,080	332,970	5,275,550	6,235,557	84.6%	16,152
2044	5,275,550	-	1,053	17,205	356,636	5,648,338	6,238,595	90.5%	13,176
2045	5,648,338	-	1,083	14,259	381,700	6,043,214	6,226,101	97.1%	10,250
2046	6,043,214	221,154	1,112	11,362	400,915	6,233,225	6,197,661	100.6%	7,571
2047	6,233,225	455,656	1,139	-	405,578	6,182,008	6,153,226	100.5%	5,325
2048	6,182,008	464,877	1,162	-	401,814	6,117,783	6,093,871	100.4%	3,618
2049	6,117,783	472,041	1,180	-	397,240	6,041,802	6,021,286	100.3%	2,393
2050	6,041,802	477,844	1,195	-	391,918	5,954,681	5,936,503	100.3%	1,536
2051	5,954,681	482,084	1,205	-	385,896	5,857,288	5,840,703	100.3%	960
2052	5,857,288	484,321	1,211	-	379,248	5,751,004	5,735,514	100.3%	591
2053	5,751,004	485,871	1,215	-	372,022	5,635,940	5,621,234	100.3%	364
2054	5,635,940	487,105	1,218	-	364,214	5,511,831	5,497,727	100.3%	229
2055	5,511,831	487,077	1,218	-	355,838	5,379,374	5,365,771	100.3%	151
2056	5,379,374	485,943	1,215	-	346,935	5,239,151	5,226,000	100.3%	104
2057	5,239,151	484,231	1,211	-	337,527	5,091,236	5,078,517	100.3%	74



## Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM								
DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S)								
BARGAINING UNIT NUMBER 5								
HIGHWAY PATROL								
20-Year GO Municipal Bond Rate at June 30, 2019				3.130%				
Long-Term Investment Return				6.750%				
Year Plan is Fully Funded				2046				
Single Equivalent Rate				3.851%				
Present Value of Benefits				\$ 7,302,948			\$ 7,302,948	
FYE	Net Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment	
2020	\$ 119,719	3.130%	0.98471	\$ 117,888	3.851%	0.98128	\$ 117,478	
2021	128,199	3.130%	0.95482	122,407	3.851%	0.94490	121,135	
2022	138,621	3.130%	0.92584	128,341	3.851%	0.90986	126,126	
2023	149,447	3.130%	0.89774	134,165	3.851%	0.87612	130,934	
2024	161,145	3.130%	0.87050	140,276	3.851%	0.84363	135,948	
2025	172,952	3.130%	0.84408	145,985	3.851%	0.81235	140,498	
2026	184,621	3.130%	0.81846	151,105	3.851%	0.78223	144,416	
2027	195,615	3.130%	0.79362	155,244	3.851%	0.75322	147,341	
2028	207,188	3.130%	0.76953	159,438	3.851%	0.72529	150,272	
2029	219,528	3.130%	0.74618	163,807	3.851%	0.69840	153,318	
2030	232,440	3.130%	0.72353	168,178	3.851%	0.67250	156,316	
2031	245,331	3.130%	0.70157	172,117	3.851%	0.64756	158,868	
2032	258,923	3.130%	0.68028	176,140	3.851%	0.62355	161,452	
2033	272,615	3.130%	0.65963	179,826	3.851%	0.60043	163,686	
2034	286,493	3.130%	0.63961	183,245	3.851%	0.57817	165,640	
2035	301,070	3.130%	0.62020	186,724	3.851%	0.55673	167,614	
2036	316,040	3.130%	0.60138	190,060	3.851%	0.53608	169,424	
2037	330,738	3.130%	0.58313	192,862	3.851%	0.51620	170,728	
2038	345,200	3.130%	0.56543	195,185	3.851%	0.49706	171,586	
2039	358,851	3.130%	0.54827	196,746	3.851%	0.47863	171,757	
2040	371,747	3.130%	0.53163	197,631	3.851%	0.46088	171,332	
2041	384,376	3.130%	0.51549	198,143	3.851%	0.44379	170,583	
2042	396,707	3.130%	0.49985	198,293	3.851%	0.42734	169,528	
2043	408,875	3.130%	0.48468	198,172	3.851%	0.41149	168,248	
2044	421,045	3.130%	0.46997	197,877	3.851%	0.39623	166,832	
2045	433,202	3.130%	0.45570	197,412	3.851%	0.38154	165,284	
2046	444,800	3.130%	0.44187	196,545	3.851%	0.36739	163,416	
2047	455,656	6.750%	0.41393	188,611	3.851%	0.35377	161,197	
2048	464,877	6.750%	0.38776	180,260	3.851%	0.34065	158,361	
2049	472,041	6.750%	0.36324	171,464	3.851%	0.32802	154,839	
2050	477,844	6.750%	0.34027	162,597	3.851%	0.31586	150,930	
2051	482,084	6.750%	0.31876	153,667	3.851%	0.30414	146,623	
2052	484,321	6.750%	0.29860	144,618	3.851%	0.29287	141,841	
2053	485,871	6.750%	0.27972	135,907	3.851%	0.28201	137,019	
2054	487,105	6.750%	0.26203	127,637	3.851%	0.27155	132,273	
2055	487,077	6.750%	0.24546	119,559	3.851%	0.26148	127,361	
2056	485,943	6.750%	0.22994	111,739	3.851%	0.25178	122,353	
2066	430,669	6.750%	0.11966	51,533	3.851%	0.17255	74,314	
2076	280,323	6.750%	0.06227	17,455	3.851%	0.11826	33,150	
2086	100,238	6.750%	0.03240	3,248	3.851%	0.08104	8,124	
2096	11,944	6.750%	0.01686	201	3.851%	0.05554	663	
2106	220	6.750%	0.00877	2	3.851%	0.03806	8	
2116	1	6.750%	0.00457	-	3.851%	0.02609	8	

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) BARGAINING UNIT NUMBER 5 HIGHWAY PATROL			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 168,057	\$ 146,042	\$ 140,545
Interest on Total OPEB Liability	179,397	195,713	199,637
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(108,271)	41,288
Changes of Assumptions	(474,646)	(137,150)	318,292
Benefit Payments	(95,517)	(77,897)	(78,501)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (222,709)</b>	<b>\$ 18,437</b>	<b>\$ 621,261</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 4,764,812</b>	<b>\$ 4,542,103</b>	<b>\$ 4,560,540</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 4,542,103</b>	<b>\$ 4,560,540</b>	<b>\$ 5,181,801</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 95,517	\$ 77,897	\$ 78,501
Employer Pre-Funding Contributions	77,454	59,697	57,567
Active Member Contributions	12,783	4,089	3,943
Net Investment Income	21,109	20,988	23,834
Benefit Payments	(95,517)	(77,897)	(78,501)
Administrative Expense	(95)	(144)	(77)
Other	(290)	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ 110,961</b>	<b>\$ 84,630</b>	<b>\$ 85,267</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ 135,701</b>	<b>\$ 246,662</b>	<b>\$ 331,052</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 246,662</b>	<b>\$ 331,292</b>	<b>\$ 416,319</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 4,295,441</b>	<b>\$ 4,229,248</b>	<b>\$ 4,765,482</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>5.431%</b>	<b>7.264%</b>	<b>8.034%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 185,626</b>	<b>\$ 200,272</b>	<b>\$ 210,747</b>
<b>Employer Contribution</b>	<b>\$ 172,971</b>	<b>\$ 137,594</b>	<b>\$ 136,068</b>
<b>Percentage of ADC made by Employer</b>	<b>93%</b>	<b>69%</b>	<b>65%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (12,655)</b>	<b>\$ (62,678)</b>	<b>\$ (74,679)</b>
<b>Expected Return on Assets</b>	<b>\$ 13,649</b>	<b>\$ 20,233</b>	<b>\$ 25,287</b>
<b>Investment (Gain)/Loss</b>	<b>\$ (7,460)</b>	<b>\$ (755)</b>	<b>\$ 1,453</b>
<b>Average Expected Remaining Service</b>	<b>6.861227</b>	<b>6.957379</b>	<b>6.730568</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.672%</b>	<b>4.219%</b>	<b>4.282%</b>
<b>Blended Discount Rate End of Year</b>	<b>4.219%</b>	<b>4.282%</b>	<b>3.851%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>

## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S) BARGAINING UNIT NUMBER 5 HIGHWAY PATROL		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 146,042	\$ 140,545
Interest on the Total OPEB Liability	195,713	199,637
Current-Period Benefit Changes	-	-
Active Member Contributions	(4,089)	(3,943)
Projected Earnings on Plan Investments	(20,233)	(25,287)
Operating Expenses	144	77
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(15,562)	(9,428)
Recognition of Outflow/(Inflow) due to Assumption Changes	(88,891)	(41,600)
Recognition of Outflow/(Inflow) due to Investment Experience	(1,643)	(1,352)
<b>Net OPEB Expense</b>	<b>\$ 211,481</b>	<b>\$ 258,649</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 4,295,441</b>	<b>\$ 4,229,488</b>
OPEB Expense	211,481	258,649
Employer Contributions	(137,594)	(136,068)
Change in Outflow/(Inflow) due to Non-investment Experience	(92,709)	50,716
Change in Outflow/(Inflow) due to Assumption Changes	(48,259)	359,892
Change in Outflow/(Inflow) due to Investment Experience	888	2,805
<b>Net OPEB Liability End of Year</b>	<b>\$ 4,229,248</b>	<b>\$ 4,765,482</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (92,709)	\$ (77,147)
Assumption Changes	\$ (453,727)	\$ (364,836)
Investment Experience	\$ (5,080)	\$ (3,437)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ 35,154
Assumption Changes	\$ -	\$ 271,001
Investment Experience	\$ -	\$ 1,162
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	4.282%	3.851%
Baseline Discount Rate and Trend Rates	\$ 4,229,248	\$ 4,765,482
Increase Discount Rate by One Percentage Point	\$ 3,519,534	\$ 3,942,154
Decrease Discount Rate by One Percentage Point	\$ 5,144,023	\$ 5,832,270
Increase Trend Rate by One Percentage Point	\$ 5,084,616	\$ 5,900,167
Decrease Trend Rate by One Percentage Point	\$ 3,572,416	\$ 3,901,073



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) BARGAINING UNIT NUMBER 5 HIGHWAY PATROL									
Valuation Date	6/30/2019								
Measurement Date	6/30/2019								
	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
Plan Year Beginning									
7/1/2016	\$ -	6.861227	\$ -	\$ (474,646)	6.861227	\$ (69,178)	\$ (7,460)	5.000000	\$ (1,492)
7/1/2017	\$ (108,271)	6.957379	\$ (15,562)	\$ (137,150)	6.957379	\$ (19,713)	\$ (755)	5.000000	\$ (151)
7/1/2018	\$ 41,288	6.730568	\$ 6,134	\$ 318,292	6.730568	\$ 47,291	\$ 1,453	5.000000	\$ 291
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ 6,134	\$ (15,562)	\$ (9,428)	\$ 47,291	\$ (88,891)	\$ (41,600)	\$ 291	\$ (1,643)	\$ (1,352)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ 6,134	\$ (15,562)	\$ (9,428)	\$ 47,291	\$ (88,891)	\$ (41,600)	\$ 291	\$ (1,643)	\$ (1,352)
6/30/2021	\$ 6,134	\$ (15,562)	\$ (9,428)	\$ 47,291	\$ (88,891)	\$ (41,600)	\$ 291	\$ (1,643)	\$ (1,352)
6/30/2022	\$ 6,134	\$ (15,562)	\$ (9,428)	\$ 47,291	\$ (88,891)	\$ (41,600)	\$ 291	\$ (151)	\$ 140
6/30/2023	\$ 6,134	\$ (15,562)	\$ (9,428)	\$ 47,291	\$ (79,291)	\$ (32,000)	\$ 289	\$ -	\$ 289
6/30/2024	\$ 6,134	\$ (14,899)	\$ (8,765)	\$ 47,291	\$ (18,872)	\$ 28,419	\$ -	\$ -	\$ -
6/30/2025	\$ 4,484	\$ -	\$ 4,484	\$ 34,546	\$ -	\$ 34,546	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ 35,154	\$ (77,147)	\$ (41,993)	\$ 271,001	\$ (364,836)	\$ (93,835)	\$ 1,162	\$ (3,437)	\$ (2,275)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ 50,716			\$ 359,892			\$ 2,805



## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>BARGAINING UNIT NUMBER 6</b> <b>CORRECTIONS</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	31,154	31,412
Retired Participants <sup>a</sup>	<u>23,707</u>	<u>24,717</u>
Total Participants	54,861	56,129
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 5,918,469	\$ 6,059,038
Retired Participants	<u>5,771,160</u>	<u>6,300,634</u>
Total Participants	\$ 11,689,629	\$ 12,359,672
Actuarial Accrued Liability		
Active Participants	\$ 3,693,008	\$ 3,782,279
Retired Participants	<u>5,771,160</u>	<u>6,300,634</u>
Total Participants	\$ 9,464,168	\$ 10,082,913
Actuarial Value of Assets	\$ 332,752	\$ 579,048
Unfunded Actuarial Accrued Liability	\$ 9,131,416	\$ 9,503,865
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 233,685	\$ 237,663
Administrative Expenses	875	967
Amortization of UAAL	<u>524,662</u>	<u>556,926</u>
Total ADC	\$ 759,222	\$ 795,556
Estimated Member Contributions	<u>(87,960)</u>	<u>(119,315)</u>
Net Employer ADC	\$ 671,262	\$ 676,241
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 279,631	\$ 295,304
Part B Reimbursement	19,551	22,400
Dental Claims	<u>15,674</u>	<u>17,246</u>
Total	\$ 314,856	\$ 334,950
Employer Implicit Costs	<u>35,061</u>	<u>51,711</u>
Total Employer Costs	\$ 349,917	\$ 386,661
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 19,052	\$ 19,584
Dental Claims	<u>4,925</u>	<u>5,106</u>
Total	\$ 23,977	\$ 24,690
Total Claims Costs	\$ 373,894	\$ 411,351

<sup>a</sup>Retired participants with dental only coverage, 1,265 as of July 1, 2018, and 1,329 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
BARGAINING UNIT NUMBER 6  
CORRECTIONS

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2047

FYE	Assets (boy)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ 332,511	\$ -	\$ 94	\$ 213,184	\$ 33,447	\$ 579,048	\$ 10,082,913	5.7%	\$ 237,663
2020	579,048	-	967	238,629	46,976	863,686	10,617,506	8.1%	233,866
2021	863,686	-	1,059	234,925	66,063	1,163,615	11,146,056	10.4%	229,453
2022	1,163,615	-	1,163	230,616	86,162	1,479,230	11,662,390	12.7%	224,144
2023	1,479,230	-	1,271	225,415	107,289	1,810,663	12,163,549	14.9%	218,012
2024	1,810,663	-	1,379	219,391	129,458	2,158,133	12,647,201	17.1%	211,351
2025	2,158,133	-	1,484	212,834	152,691	2,522,174	13,113,080	19.2%	204,145
2026	2,522,174	-	1,582	205,727	177,024	2,903,343	13,562,125	21.4%	196,383
2027	2,903,343	-	1,674	198,057	202,496	3,302,222	13,995,325	23.6%	188,043
2028	3,302,222	-	1,765	189,808	229,143	3,719,408	14,411,052	25.8%	179,349
2029	3,719,408	-	1,858	181,207	257,014	4,155,771	14,807,143	28.1%	170,573
2030	4,155,771	-	1,952	172,525	286,178	4,612,522	15,181,579	30.4%	161,717
2031	4,612,522	-	2,052	163,768	316,714	5,090,952	15,530,763	32.8%	152,790
2032	5,090,952	-	2,154	154,945	348,712	5,592,455	15,851,699	35.3%	143,850
2033	5,592,455	-	2,257	146,106	382,267	6,118,571	16,142,409	37.9%	134,973
2034	6,118,571	-	2,360	137,333	417,485	6,671,029	16,400,540	40.7%	126,060
2035	6,671,029	-	2,461	128,521	454,480	7,251,569	16,624,986	43.6%	117,045
2036	7,251,569	-	2,561	119,605	493,367	7,861,980	16,813,617	46.8%	108,265
2037	7,861,980	-	2,655	110,920	534,278	8,504,523	16,966,458	50.1%	100,034
2038	8,504,523	-	2,740	102,775	577,376	9,181,934	17,085,666	53.7%	92,197
2039	9,181,934	-	2,819	95,016	622,842	9,896,973	17,171,896	57.6%	84,460
2040	9,896,973	-	2,896	87,356	670,850	10,652,283	17,224,217	61.8%	76,465
2041	10,652,283	-	2,972	79,437	721,568	11,450,316	17,239,978	66.4%	67,923
2042	11,450,316	-	3,047	70,971	775,151	12,293,391	17,216,540	71.4%	58,720
2043	12,293,391	-	3,122	61,843	831,753	13,183,865	17,150,750	76.9%	49,041
2044	13,183,865	-	3,201	52,242	891,539	14,124,445	17,037,524	82.9%	39,449
2045	14,124,445	-	3,276	42,725	954,710	15,118,604	16,875,504	89.6%	30,610
2046	15,118,604	-	3,341	33,951	1,021,522	16,170,736	16,666,460	97.0%	22,886
2047	16,170,736	764,335	3,395	26,281	1,066,909	16,496,196	16,412,709	100.5%	16,457
2048	16,496,196	1,374,754	3,437	-	1,067,739	16,185,744	16,117,508	100.4%	11,424
2049	16,185,744	1,385,886	3,465	-	1,046,413	15,842,806	15,785,517	100.4%	7,703
2050	15,842,806	1,389,829	3,475	-	1,023,133	15,472,635	15,423,080	100.3%	5,062
2051	15,472,635	1,388,619	3,472	-	998,187	15,078,731	15,034,620	100.3%	3,249
2052	15,078,731	1,383,614	3,459	-	971,765	14,663,423	14,623,186	100.3%	2,039
2053	14,663,423	1,373,663	3,434	-	944,063	14,230,389	14,192,980	100.3%	1,253
2054	14,230,389	1,358,330	3,396	-	915,344	13,784,007	13,748,749	100.3%	751
2055	13,784,007	1,337,031	3,343	-	885,922	13,329,555	13,296,015	100.3%	440
2056	13,329,555	1,310,831	3,277	-	856,118	12,871,565	12,839,471	100.3%	253
2057	12,871,565	1,280,384	3,201	-	826,217	12,414,197	12,383,380	100.2%	142



## Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM							
DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S)							
BARGAINING UNIT NUMBER 6							
CORRECTIONS							
20-Year GO Municipal Bond Rate at June 30, 2019		3.130%					
Long-Term Investment Return		6.750%					
Year Plan is Fully Funded		2047					
Single Equivalent Rate		3.726%					
Present Value of Benefits		\$ 22,448,200				\$ 22,448,200	
FYE	Net Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 386,661	3.130%	0.98471	\$ 380,749	3.726%	0.98188	\$ 379,654
2021	423,492	3.130%	0.95482	404,359	3.726%	0.94661	400,882
2022	465,299	3.130%	0.92584	430,794	3.726%	0.91261	424,638
2023	508,220	3.130%	0.89774	456,252	3.726%	0.87983	447,149
2024	551,565	3.130%	0.87050	480,136	3.726%	0.84823	467,855
2025	593,453	3.130%	0.84408	500,921	3.726%	0.81777	485,306
2026	632,757	3.130%	0.81846	517,886	3.726%	0.78839	498,862
2027	669,409	3.130%	0.79362	531,256	3.726%	0.76008	508,803
2028	705,990	3.130%	0.76953	543,283	3.726%	0.73278	517,334
2029	743,184	3.130%	0.74618	554,547	3.726%	0.70646	525,029
2030	780,957	3.130%	0.72353	565,047	3.726%	0.68108	531,898
2031	820,694	3.130%	0.70157	575,776	3.726%	0.65662	538,886
2032	861,634	3.130%	0.68028	586,152	3.726%	0.63304	545,448
2033	902,614	3.130%	0.65963	595,394	3.726%	0.61030	550,867
2034	943,967	3.130%	0.63961	603,774	3.726%	0.58838	555,413
2035	984,225	3.130%	0.62020	610,417	3.726%	0.56725	558,300
2036	1,024,230	3.130%	0.60138	615,949	3.726%	0.54687	560,125
2037	1,062,126	3.130%	0.58313	619,353	3.726%	0.52723	559,987
2038	1,096,153	3.130%	0.56543	619,795	3.726%	0.50830	557,170
2039	1,127,768	3.130%	0.54827	618,318	3.726%	0.49004	552,651
2040	1,158,226	3.130%	0.53163	615,744	3.726%	0.47244	547,191
2041	1,188,773	3.130%	0.51549	612,803	3.726%	0.45547	541,451
2042	1,218,913	3.130%	0.49985	609,270	3.726%	0.43911	535,238
2043	1,248,870	3.130%	0.48468	605,298	3.726%	0.42334	528,696
2044	1,280,484	3.130%	0.46997	601,785	3.726%	0.40813	522,609
2045	1,310,411	3.130%	0.45570	597,159	3.726%	0.39348	515,614
2046	1,336,213	3.130%	0.44187	590,436	3.726%	0.37934	506,883
2047	1,357,852	3.130%	0.42846	581,788	3.726%	0.36572	496,591
2048	1,374,754	6.750%	0.40137	551,784	3.726%	0.35258	484,714
2049	1,385,886	6.750%	0.37599	521,079	3.726%	0.33992	471,088
2050	1,389,829	6.750%	0.35222	489,519	3.726%	0.32771	455,461
2051	1,388,619	6.750%	0.32994	458,167	3.726%	0.31594	438,719
2052	1,383,614	6.750%	0.30908	427,649	3.726%	0.30459	421,437
2053	1,373,663	6.750%	0.28954	397,727	3.726%	0.29365	403,379
2054	1,358,330	6.750%	0.27123	368,419	3.726%	0.28310	384,550
2055	1,337,031	6.750%	0.25408	339,712	3.726%	0.27294	364,924
2056	1,310,831	6.750%	0.23801	311,995	3.726%	0.26313	344,923
2066	1,029,109	6.750%	0.12386	127,463	3.726%	0.18252	187,837
2076	663,752	6.750%	0.06445	42,781	3.726%	0.12661	84,037
2086	241,855	6.750%	0.03354	8,112	3.726%	0.08782	21,240
2096	26,421	6.750%	0.01745	461	3.726%	0.06092	1,610
2106	485	6.750%	0.00908	4	3.726%	0.04226	20
2116	13	6.750%	0.00473	-	3.726%	0.02931	-

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) BARGAINING UNIT NUMBER 6 CORRECTIONS			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 609,551	\$ 531,916	\$ 503,829
Interest on Total OPEB Liability	574,853	634,360	622,325
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(1,186,530)	(460,414)
Changes of Assumptions	(1,637,897)	(164,236)	912,754
Benefit Payments	(325,344)	(327,604)	(294,213)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (778,837)</b>	<b>\$ (512,094)</b>	<b>\$ 1,284,281</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 15,990,189</b>	<b>\$ 15,211,352</b>	<b>\$ 14,699,258</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 15,211,352</b>	<b>\$ 14,699,258</b>	<b>\$ 15,983,539</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 325,344	\$ 327,604	\$ 294,213
Employer Pre-Funding Contributions	146,933	65,245	106,592
Active Member Contributions	23,181	65,245	106,592
Net Investment Income	15,089	17,235	33,447
Benefit Payments	(325,344)	(327,604)	(294,213)
Administrative Expense	(48)	(128)	(94)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ 185,155</b>	<b>\$ 147,597</b>	<b>\$ 246,537</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ 185,155</b>	<b>\$ 332,511</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 185,155</b>	<b>\$ 332,752</b>	<b>\$ 579,048</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 15,026,197</b>	<b>\$ 14,366,506</b>	<b>\$ 15,404,491</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>1.217%</b>	<b>2.264%</b>	<b>3.623%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 698,913</b>	<b>\$ 678,512</b>	<b>\$ 652,630</b>
<b>Employer Contribution</b>	<b>\$ 472,277</b>	<b>\$ 392,849</b>	<b>\$ 400,805</b>
<b>Percentage of ADC made by Employer</b>	<b>68%</b>	<b>58%</b>	<b>61%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (226,636)</b>	<b>\$ (285,663)</b>	<b>\$ (251,825)</b>
<b>Expected Return on Assets</b>	<b>\$ 7,907</b>	<b>\$ 18,141</b>	<b>\$ 30,608</b>
<b>Investment (Gain)/Loss</b>	<b>\$ (7,182)</b>	<b>\$ 906</b>	<b>\$ (2,839)</b>
<b>Average Expected Remaining Service</b>	<b>6.570241</b>	<b>6.456823</b>	<b>6.426717</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.497%</b>	<b>4.074%</b>	<b>4.133%</b>
<b>Blended Discount Rate End of Year</b>	<b>4.074%</b>	<b>4.133%</b>	<b>3.726%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>



## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S) BARGAINING UNIT NUMBER 6 CORRECTIONS		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 531,916	\$ 503,829
Interest on the Total OPEB Liability	634,360	622,325
Current-Period Benefit Changes	-	-
Active Member Contributions	(65,245)	(106,592)
Projected Earnings on Plan Investments	(18,141)	(30,608)
Operating Expenses	128	94
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(183,764)	(255,405)
Recognition of Outflow/(Inflow) due to Assumption Changes	(274,726)	(132,701)
Recognition of Outflow/(Inflow) due to Investment Experience	(1,255)	(1,823)
<b>Net OPEB Expense</b>	<b>\$ 623,273</b>	<b>\$ 599,119</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 15,026,197</b>	<b>\$ 14,366,747</b>
OPEB Expense	623,273	599,119
Employer Contributions	(392,849)	(400,805)
Change in Outflow/(Inflow) due to Non-investment Experience	(1,002,766)	(205,009)
Change in Outflow/(Inflow) due to Assumption Changes	110,490	1,045,455
Change in Outflow/(Inflow) due to Investment Experience	2,161	(1,016)
<b>Net OPEB Liability End of Year</b>	<b>\$ 14,366,506</b>	<b>\$ 15,404,491</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (1,002,766)	\$ (1,207,775)
Assumption Changes	\$ (1,278,117)	\$ (1,003,391)
Investment Experience	\$ (4,310)	\$ (5,145)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ -
Assumption Changes	\$ -	\$ 770,729
Investment Experience	\$ 725	\$ 544
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	4.133%	3.726%
Baseline Discount Rate and Trend Rates	\$ 14,366,506	\$ 15,404,491
Increase Discount Rate by One Percentage Point	\$ 12,132,067	\$ 12,978,078
Decrease Discount Rate by One Percentage Point	\$ 17,237,517	\$ 18,523,905
Increase Trend Rate by One Percentage Point	\$ 16,959,344	\$ 18,699,103
Decrease Trend Rate by One Percentage Point	\$ 12,356,587	\$ 12,863,462



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) BARGAINING UNIT NUMBER 6 CORRECTIONS									
Valuation Date	6/30/2019								
Measurement Date	6/30/2019								
	Non-Investment Experience			Assumption Changes			Investment Experience		
Plan Year Beginning	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
7/1/2016	\$ -	6.570241	\$ -	\$ (1,637,897)	6.570241	\$ (249,290)	\$ (7,182)	\$ 5.000000	\$ (1,436)
7/1/2017	\$ (1,186,530)	6.456823	\$ (183,764)	\$ (164,236)	6.456823	\$ (25,436)	\$ 906	5.000000	\$ 181
7/1/2018	\$ (460,414)	6.426717	\$ (71,641)	\$ 912,754	6.426717	\$ 142,025	\$ (2,839)	5.000000	\$ (568)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ -	\$ (255,405)	\$ (255,405)	\$ 142,025	\$ (274,726)	\$ (132,701)	\$ 181	\$ (2,004)	\$ (1,823)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ -	\$ (255,405)	\$ (255,405)	\$ 142,025	\$ (274,726)	\$ (132,701)	\$ 181	\$ (2,004)	\$ (1,823)
6/30/2021	\$ -	\$ (255,405)	\$ (255,405)	\$ 142,025	\$ (274,726)	\$ (132,701)	\$ 181	\$ (2,006)	\$ (1,825)
6/30/2022	\$ -	\$ (255,405)	\$ (255,405)	\$ 142,025	\$ (274,726)	\$ (132,701)	\$ 182	\$ (568)	\$ (386)
6/30/2023	\$ -	\$ (255,405)	\$ (255,405)	\$ 142,025	\$ (167,593)	\$ (25,568)	\$ -	\$ (567)	\$ (567)
6/30/2024	\$ -	\$ (155,587)	\$ (155,587)	\$ 142,025	\$ (11,620)	\$ 130,405	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ (30,568)	\$ (30,568)	\$ 60,604	\$ -	\$ 60,604	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ (1,207,775)	\$ (1,207,775)	\$ 770,729	\$ (1,003,391)	\$ (232,662)	\$ 544	\$ (5,145)	\$ (4,601)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ (205,009)			\$ 1,045,455			\$ (1,016)

## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>BARGAINING UNIT NUMBER 7</b> <b>PROTECTIVE SERVICES AND PUBLIC SAFETY</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	7,574	7,717
Retired Participants <sup>a</sup>	<u>5,854</u>	<u>6,052</u>
Total Participants	13,428	13,769
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 1,218,293	\$ 1,238,968
Retired Participants	<u>1,136,544</u>	<u>1,235,978</u>
Total Participants	\$ 2,354,837	\$ 2,474,946
Actuarial Accrued Liability		
Active Participants	\$ 793,401	\$ 800,897
Retired Participants	<u>1,136,544</u>	<u>1,235,978</u>
Total Participants	\$ 1,929,945	\$ 2,036,875
Actuarial Value of Assets	\$ 41,695	\$ 72,366
Unfunded Actuarial Accrued Liability	\$ 1,888,250	\$ 1,964,509
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 46,225	\$ 47,137
Administrative Expenses	189	206
Amortization of UAAL	<u>108,493</u>	<u>115,120</u>
Total ADC	\$ 154,907	\$ 162,463
Estimated Member Contributions	<u>(11,603)</u>	<u>(17,754)</u>
Net Employer ADC	\$ 143,304	\$ 144,709
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 53,979	\$ 56,097
Part B Reimbursement	8,184	8,999
Dental Claims	<u>3,772</u>	<u>4,007</u>
Total	\$ 65,935	\$ 69,103
Employer Implicit Costs	<u>9,528</u>	<u>13,310</u>
Total Employer Costs	\$ 75,463	\$ 82,413
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 4,081	\$ 4,219
Dental Claims	<u>1,185</u>	<u>1,218</u>
Total	\$ 5,266	\$ 5,437
Total Claims Costs	\$ 80,729	\$ 87,850

<sup>a</sup>Retired participants with dental only coverage, 372 as of July 1, 2018, and 380 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
BARGAINING UNIT NUMBER 7  
PROTECTIVE SERVICES AND PUBLIC SAFETY

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2048

FYE	Assets (boy)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ 41,665	\$ -	\$ 12	\$ 26,632	\$ 4,081	\$ 72,366	\$ 2,036,875	3.6%	\$ 47,137
2020	72,366	-	206	35,507	6,057	113,724	2,139,488	5.3%	45,881
2021	113,724	-	225	46,106	9,200	168,805	2,239,921	7.5%	44,639
2022	168,805	-	246	44,885	12,876	226,320	2,337,045	9.7%	43,357
2023	226,320	-	267	43,624	16,716	286,393	2,430,722	11.8%	42,011
2024	286,393	-	288	42,299	20,726	349,130	2,520,537	13.9%	40,576
2025	349,130	-	309	40,884	24,913	414,618	2,606,316	15.9%	39,082
2026	414,618	-	328	39,410	29,284	482,984	2,688,176	18.0%	37,505
2027	482,984	-	347	37,851	33,847	554,335	2,766,364	20.0%	35,847
2028	554,335	-	365	36,212	38,608	628,790	2,840,438	22.1%	34,157
2029	628,790	-	384	34,541	43,577	706,524	2,909,968	24.3%	32,445
2030	706,524	-	403	32,848	48,767	787,736	2,974,449	26.5%	30,711
2031	787,736	-	423	31,134	54,192	872,639	3,033,202	28.8%	28,952
2032	872,639	-	443	29,394	59,864	961,454	3,085,809	31.2%	27,186
2033	961,454	-	463	27,649	65,801	1,054,441	3,131,820	33.7%	25,435
2034	1,054,441	-	482	25,917	72,019	1,151,895	3,170,964	36.3%	23,672
2035	1,151,895	-	502	24,174	78,539	1,254,106	3,202,711	39.2%	21,888
2036	1,254,106	-	521	22,409	85,379	1,361,373	3,226,860	42.2%	20,123
2037	1,361,373	-	539	20,662	92,561	1,474,057	3,243,425	45.4%	18,421
2038	1,474,057	-	555	18,976	100,110	1,592,588	3,252,721	49.0%	16,773
2039	1,592,588	-	568	17,342	108,057	1,717,419	3,255,197	52.8%	15,172
2040	1,717,419	-	582	15,753	116,429	1,849,019	3,250,658	56.9%	13,615
2041	1,849,019	-	594	14,209	125,261	1,987,895	3,239,126	61.4%	12,073
2042	1,987,895	-	604	12,677	134,584	2,134,552	3,220,976	66.3%	10,550
2043	2,134,552	-	615	11,164	144,432	2,289,533	3,195,610	71.6%	9,078
2044	2,289,533	-	625	9,703	154,845	2,453,456	3,162,539	77.6%	7,681
2045	2,453,456	-	633	8,314	165,863	2,627,000	3,122,388	84.1%	6,369
2046	2,627,000	-	640	7,009	177,534	2,810,903	3,075,342	91.4%	5,182
2047	2,810,903	-	644	5,827	189,908	3,005,994	3,022,075	99.5%	4,132
2048	3,005,994	224,594	647	4,779	195,586	2,981,118	2,963,225	100.6%	3,228
2049	2,981,118	259,130	648	-	192,601	2,913,941	2,898,923	100.5%	2,484
2050	2,913,941	258,312	646	-	188,094	2,843,077	2,830,333	100.5%	1,879
2051	2,843,077	256,529	641	-	183,370	2,769,277	2,758,313	100.4%	1,401
2052	2,769,277	254,649	637	-	178,451	2,692,442	2,682,865	100.4%	1,028
2053	2,692,442	251,808	630	-	173,359	2,613,363	2,604,864	100.3%	742
2054	2,613,363	248,361	621	-	168,136	2,532,517	2,524,857	100.3%	526
2055	2,532,517	244,639	612	-	162,803	2,450,069	2,443,065	100.3%	366
2056	2,450,069	240,075	600	-	157,390	2,366,784	2,360,301	100.3%	250
2057	2,366,784	235,040	588	-	151,935	2,283,091	2,277,030	100.3%	166





## Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM								
DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S)								
BARGAINING UNIT NUMBER 7								
PROTECTIVE SERVICES AND PUBLIC SAFETY								
20-Year GO Municipal Bond Rate at June 30, 2019			3.130%					
Long-Term Investment Return			6.750%					
Year Plan is Fully Funded			2048					
Single Equivalent Rate			3.654%					
Present Value of Benefits			\$ 4,475,862			\$ 4,475,862		
FYE	Net Employer Benefits		Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 82,413		3.130%	0.98471	\$ 81,154	3.654%	0.98221	\$ 80,948
2021	89,931		3.130%	0.95482	85,868	3.654%	0.94759	85,217
2022	98,409		3.130%	0.92584	91,111	3.654%	0.91418	89,963
2023	106,763		3.130%	0.89774	95,846	3.654%	0.88195	94,160
2024	115,229		3.130%	0.87050	100,307	3.654%	0.85086	98,044
2025	123,518		3.130%	0.84408	104,259	3.654%	0.82086	101,391
2026	131,373		3.130%	0.81846	107,524	3.654%	0.79192	104,037
2027	138,644		3.130%	0.79362	110,030	3.654%	0.76400	105,924
2028	146,022		3.130%	0.76953	112,369	3.654%	0.73707	107,628
2029	153,513		3.130%	0.74618	114,548	3.654%	0.71108	109,160
2030	161,175		3.130%	0.72353	116,615	3.654%	0.68601	110,568
2031	169,136		3.130%	0.70157	118,661	3.654%	0.66183	111,939
2032	177,106		3.130%	0.68028	120,482	3.654%	0.63850	113,081
2033	185,104		3.130%	0.65963	122,100	3.654%	0.61599	114,021
2034	192,946		3.130%	0.63961	123,411	3.654%	0.59427	114,662
2035	200,841		3.130%	0.62020	124,562	3.654%	0.57332	115,146
2036	208,426		3.130%	0.60138	125,343	3.654%	0.55311	115,282
2037	215,522		3.130%	0.58313	125,676	3.654%	0.53361	115,004
2038	221,881		3.130%	0.56543	125,458	3.654%	0.51479	114,223
2039	227,388		3.130%	0.54827	124,670	3.654%	0.49665	112,931
2040	232,684		3.130%	0.53163	123,701	3.654%	0.47914	111,487
2041	237,551		3.130%	0.51549	122,456	3.654%	0.46224	109,807
2042	241,611		3.130%	0.49985	120,768	3.654%	0.44595	107,746
2043	245,836		3.130%	0.48468	119,151	3.654%	0.43023	105,765
2044	250,117		3.130%	0.46997	117,547	3.654%	0.41506	103,813
2045	253,369		3.130%	0.45570	115,461	3.654%	0.40043	101,455
2046	256,065		3.130%	0.44187	113,148	3.654%	0.38631	98,920
2047	257,788		3.130%	0.42846	110,452	3.654%	0.37269	96,075
2048	258,630		3.130%	0.41546	107,450	3.654%	0.35955	92,990
2049	259,130		6.750%	0.38919	100,850	3.654%	0.34687	89,886
2050	258,312		6.750%	0.36458	94,175	3.654%	0.33465	86,443
2051	256,529		6.750%	0.34153	87,611	3.654%	0.32285	82,820
2052	254,649		6.750%	0.31993	81,470	3.654%	0.31147	79,315
2053	251,808		6.750%	0.29970	75,467	3.654%	0.30049	75,665
2054	248,361		6.750%	0.28075	69,727	3.654%	0.28989	71,998
2055	244,639		6.750%	0.26300	64,340	3.654%	0.27967	68,419
2056	240,075		6.750%	0.24637	59,147	3.654%	0.26981	64,775
2066	192,064		6.750%	0.12821	24,624	3.654%	0.18845	36,194
2076	118,296		6.750%	0.06672	7,892	3.654%	0.13162	15,570
2086	37,853		6.750%	0.03472	1,314	3.654%	0.09193	3,480
2096	3,405		6.750%	0.01807	62	3.654%	0.06420	219
2106	20		6.750%	0.00940	-	3.654%	0.04484	1
2116	-		6.750%	0.00489	-	3.654%	0.03132	

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) BARGAINING UNIT NUMBER 7 PROTECTIVE SERVICES AND PUBLIC SAFETY			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 123,030	\$ 106,547	\$ 101,132
Interest on Total OPEB Liability	113,364	126,344	123,285
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(256,809)	(69,226)
Changes of Assumptions	(336,806)	(73,969)	149,728
Benefit Payments	(70,074)	(66,136)	(73,353)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (170,486)</b>	<b>\$ (164,023)</b>	<b>\$ 231,566</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 3,301,789</b>	<b>\$ 3,131,303</b>	<b>\$ 2,967,280</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 3,131,303</b>	<b>\$ 2,967,280</b>	<b>\$ 3,198,846</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 70,074	\$ 66,136	\$ 73,353
Employer Pre-Funding Contributions	-	5,716	13,316
Active Member Contributions	-	5,716	13,316
Net Investment Income	-	2,376	4,081
Benefit Payments	(70,074)	(66,136)	(73,353)
Administrative Expense	-	(17)	(12)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ -</b>	<b>\$ 13,791</b>	<b>\$ 30,701</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ 27,904</b>	<b>\$ 41,665</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ -</b>	<b>\$ 41,695</b>	<b>\$ 72,366</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 3,131,303</b>	<b>\$ 2,925,585</b>	<b>\$ 3,126,480</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.000%</b>	<b>1.405%</b>	<b>2.262%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 148,250</b>	<b>\$ 146,981</b>	<b>\$ 141,591</b>
<b>Employer Contribution</b>	<b>\$ 70,074</b>	<b>\$ 71,852</b>	<b>\$ 86,669</b>
<b>Percentage of ADC made by Employer</b>	<b>47%</b>	<b>49%</b>	<b>61%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (78,176)</b>	<b>\$ (75,129)</b>	<b>\$ (54,922)</b>
<b>Expected Return on Assets</b>	<b>\$ -</b>	<b>\$ 2,440</b>	<b>\$ 3,832</b>
<b>Investment (Gain)/Loss</b>	<b>\$ -</b>	<b>\$ 64</b>	<b>\$ (249)</b>
<b>Average Expected Remaining Service</b>	<b>6.124944</b>	<b>6.407090</b>	<b>6.458821</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.344%</b>	<b>3.947%</b>	<b>4.066%</b>
<b>Blended Discount Rate End of Year</b>	<b>3.947%</b>	<b>4.066%</b>	<b>3.654%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>



## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S) BARGAINING UNIT NUMBER 7 PROTECTIVE SERVICES AND PUBLIC SAFETY		
Measured for the Plan's Fiscal Year Ending	June 30, 2018	June 30, 2019
Applicable for the Sponsor's Fiscal Year Ending	June 30, 2019	June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 106,547	\$ 101,132
Interest on the Total OPEB Liability	126,344	123,285
Current-Period Benefit Changes	-	-
Active Member Contributions	(5,716)	(13,316)
Projected Earnings on Plan Investments	(2,440)	(3,832)
Operating Expenses	17	12
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(40,082)	(50,800)
Recognition of Outflow/(Inflow) due to Assumption Changes	(66,534)	(43,352)
Recognition of Outflow/(Inflow) due to Investment Experience	13	(37)
<b>Net OPEB Expense</b>	<b>\$ 118,149</b>	<b>\$ 113,092</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 3,103,399</b>	<b>\$ 2,925,615</b>
OPEB Expense	118,149	113,092
Employer Contributions	(71,852)	(86,669)
Change in Outflow/(Inflow) due to Non-investment Experience	(216,727)	(18,426)
Change in Outflow/(Inflow) due to Assumption Changes	(7,435)	193,080
Change in Outflow/(Inflow) due to Investment Experience	51	(212)
<b>Net OPEB Liability End of Year</b>	<b>\$ 2,925,585</b>	<b>\$ 3,126,480</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (216,727)	\$ (235,153)
Assumption Changes	\$ (289,252)	\$ (222,718)
Investment Experience	\$ -	\$ (199)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ -
Assumption Changes	\$ -	\$ 126,546
Investment Experience	\$ 51	\$ 38
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	4.066%	3.654%
Baseline Discount Rate and Trend Rates	\$ 2,925,585	\$ 3,126,480
Increase Discount Rate by One Percentage Point	\$ 2,494,169	\$ 2,661,092
Decrease Discount Rate by One Percentage Point	\$ 3,472,238	\$ 3,716,688
Increase Trend Rate by One Percentage Point	\$ 3,423,507	\$ 3,762,731
Decrease Trend Rate by One Percentage Point	\$ 2,537,599	\$ 2,632,967



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) BARGAINING UNIT NUMBER 7 PROTECTIVE SERVICES AND PUBLIC SAFETY									
Valuation Date	6/30/2019								
Measurement Date	6/30/2019								
	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
Plan Year Beginning									
7/1/2016	\$ -	6.124944	\$ -	\$ (336,806)	6.124944	\$ (54,989)	\$ -	5.000000	\$ -
7/1/2017	\$ (256,809)	6.407090	\$ (40,082)	\$ (73,969)	6.407090	\$ (11,545)	\$ 64	5.000000	\$ 13
7/1/2018	\$ (69,226)	6.458821	\$ (10,718)	\$ 149,728	6.458821	\$ 23,182	\$ (249)	5.000000	\$ (50)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ -	\$ (50,800)	\$ (50,800)	\$ 23,182	\$ (66,534)	\$ (43,352)	\$ 13	\$ (50)	\$ (37)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ -	\$ (50,800)	\$ (50,800)	\$ 23,182	\$ (66,534)	\$ (43,352)	\$ 13	\$ (50)	\$ (37)
6/30/2021	\$ -	\$ (50,800)	\$ (50,800)	\$ 23,182	\$ (66,534)	\$ (43,352)	\$ 13	\$ (50)	\$ (37)
6/30/2022	\$ -	\$ (50,800)	\$ (50,800)	\$ 23,182	\$ (66,534)	\$ (43,352)	\$ 12	\$ (50)	\$ (38)
6/30/2023	\$ -	\$ (50,800)	\$ (50,800)	\$ 23,182	\$ (18,417)	\$ 4,765	\$ -	\$ (49)	\$ (49)
6/30/2024	\$ -	\$ (27,035)	\$ (27,035)	\$ 23,182	\$ (4,699)	\$ 18,483	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ (4,918)	\$ (4,918)	\$ 10,636	\$ -	\$ 10,636	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ (235,153)	\$ (235,153)	\$ 126,546	\$ (222,718)	\$ (96,172)	\$ 38	\$ (199)	\$ (161)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ (18,426)			\$ 193,080			\$ (212)

## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>BARGAINING UNIT NUMBER 8</b> <b>FIREFIGHTERS</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	6,552	6,178
Retired Participants <sup>a</sup>	<u>3,417</u>	<u>3,563</u>
Total Participants	9,969	9,741
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 1,080,832	\$ 1,085,986
Retired Participants	<u>846,455</u>	<u>927,485</u>
Total Participants	\$ 1,927,287	\$ 2,013,471
Actuarial Accrued Liability		
Active Participants	\$ 600,858	\$ 616,679
Retired Participants	<u>846,455</u>	<u>927,485</u>
Total Participants	\$ 1,447,313	\$ 1,544,164
Actuarial Value of Assets	\$ 12,305	\$ 42,232
Unfunded Actuarial Accrued Liability	\$ 1,435,008	\$ 1,501,932
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 43,154	\$ 42,921
Administrative Expenses	130	143
Amortization of UAAL	<u>82,451</u>	<u>88,013</u>
Total ADC	\$ 125,735	\$ 131,077
Estimated Member Contributions	<u>(10,821)</u>	<u>(16,149)</u>
Net Employer ADC	\$ 114,914	\$ 114,928
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 38,565	\$ 40,872
Part B Reimbursement	4,339	4,741
Dental Claims	<u>2,345</u>	<u>2,583</u>
Total	\$ 45,249	\$ 48,196
Employer Implicit Costs	<u>6,811</u>	<u>9,093</u>
Total Employer Costs	\$ 52,060	\$ 57,289
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 3,498	\$ 3,790
Dental Claims	<u>745</u>	<u>778</u>
Total	\$ 4,243	\$ 4,568
Total Claims Costs	\$ 56,303	\$ 61,857

<sup>a</sup>Retired participants with dental only coverage, 60 as of July 1, 2018, and 68 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
BARGAINING UNIT NUMBER 8  
FIREFIGHTERS

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2048

FYE	Assets (boy)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ 12,297	\$ -	\$ 6	\$ 27,544	\$ 2,397	\$ 42,232	\$ 1,544,164	2.7%	\$ 42,921
2020	42,232	-	143	32,298	3,918	78,305	1,634,988	4.8%	42,993
2021	78,305	-	154	43,147	6,713	128,011	1,727,432	7.4%	42,980
2022	128,011	-	168	43,148	10,068	181,059	1,820,563	9.9%	42,837
2023	181,059	-	182	43,019	13,644	237,540	1,913,896	12.4%	42,545
2024	237,540	-	197	42,742	17,446	297,531	2,007,171	14.8%	42,131
2025	297,531	-	212	42,343	21,482	361,144	2,100,092	17.2%	41,588
2026	361,144	-	226	41,814	25,758	428,490	2,192,779	19.5%	40,887
2027	428,490	-	240	41,127	30,280	499,657	2,285,330	21.9%	40,027
2028	499,657	-	254	40,281	35,056	574,740	2,377,429	24.2%	39,016
2029	574,740	-	269	39,285	40,090	653,846	2,468,411	26.5%	37,851
2030	653,846	-	284	38,136	45,391	737,089	2,557,908	28.8%	36,565
2031	737,089	-	302	36,867	50,967	824,621	2,644,848	31.2%	35,159
2032	824,621	-	320	35,479	56,829	916,609	2,728,519	33.6%	33,619
2033	916,609	-	339	33,959	62,987	1,013,216	2,808,339	36.1%	31,967
2034	1,013,216	-	359	32,326	69,453	1,114,636	2,883,547	38.7%	30,180
2035	1,114,636	-	380	30,560	76,240	1,221,056	2,953,478	41.3%	28,274
2036	1,221,056	-	401	28,675	83,360	1,332,690	3,017,299	44.2%	26,297
2037	1,332,690	-	421	26,719	90,830	1,449,818	3,074,844	47.2%	24,276
2038	1,449,818	-	441	24,718	98,669	1,572,764	3,125,835	50.3%	22,231
2039	1,572,764	-	461	22,692	106,900	1,701,895	3,169,856	53.7%	20,156
2040	1,701,895	-	481	20,637	115,547	1,837,598	3,206,391	57.3%	18,050
2041	1,837,598	-	501	18,551	124,637	1,980,285	3,234,950	61.2%	15,961
2042	1,980,285	-	520	16,481	134,199	2,130,445	3,255,347	65.4%	13,922
2043	2,130,445	-	538	14,460	144,267	2,288,634	3,267,442	70.0%	11,867
2044	2,288,634	-	556	12,423	154,877	2,455,378	3,270,880	75.1%	9,838
2045	2,455,378	-	572	10,410	166,064	2,631,280	3,265,606	80.6%	7,936
2046	2,631,280	-	587	8,523	177,875	2,817,091	3,251,871	86.6%	6,195
2047	2,817,091	-	600	6,795	190,359	3,013,645	3,229,938	93.3%	4,656
2048	3,013,645	4,082	611	5,267	203,440	3,217,659	3,200,348	100.5%	3,382
2049	3,217,659	247,478	619	-	208,955	3,178,517	3,164,260	100.5%	2,396
2050	3,178,517	249,315	623	-	206,252	3,134,831	3,122,786	100.4%	1,669
2051	3,134,831	250,738	627	-	203,256	3,086,722	3,076,269	100.3%	1,139
2052	3,086,722	251,513	629	-	199,983	3,034,563	3,025,247	100.3%	760
2053	3,034,563	251,408	629	-	196,466	2,978,992	2,970,486	100.3%	496
2054	2,978,992	250,976	627	-	192,729	2,920,118	2,912,194	100.3%	316
2055	2,920,118	249,750	624	-	188,796	2,858,540	2,851,043	100.3%	197
2056	2,858,540	247,848	620	-	184,702	2,794,774	2,787,605	100.3%	120
2057	2,794,774	245,988	615	-	180,460	2,728,631	2,721,727	100.3%	72



## Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM								
DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S)								
BARGAINING UNIT NUMBER 8								
FIREFIGHTERS								
20-Year GO Municipal Bond Rate at June 30, 2019			3.130%					
Long-Term Investment Return			6.750%					
Year Plan is Fully Funded			2048					
Single Equivalent Rate			3.776%					
Present Value of Benefits			\$ 3,838,321			\$ 3,838,321		
FYE	Net Employer Benefits		Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 57,289		3.130%	0.98471	\$ 56,414	3.776%	0.98164	\$ 56,238
2021	61,730		3.130%	0.95482	58,941	3.776%	0.94591	58,391
2022	67,092		3.130%	0.92584	62,117	3.776%	0.91149	61,154
2023	72,830		3.130%	0.89774	65,383	3.776%	0.87832	63,968
2024	78,682		3.130%	0.87050	68,492	3.776%	0.84636	66,593
2025	84,687		3.130%	0.84408	71,482	3.776%	0.81556	69,067
2026	90,423		3.130%	0.81846	74,008	3.776%	0.78588	71,062
2027	95,887		3.130%	0.79362	76,098	3.776%	0.75728	72,614
2028	101,478		3.130%	0.76953	78,091	3.776%	0.72972	74,051
2029	107,537		3.130%	0.74618	80,242	3.776%	0.70317	75,617
2030	113,712		3.130%	0.72353	82,274	3.776%	0.67758	77,049
2031	120,704		3.130%	0.70157	84,683	3.776%	0.65292	78,810
2032	128,096		3.130%	0.68028	87,141	3.776%	0.62916	80,593
2033	135,698		3.130%	0.65963	89,511	3.776%	0.60627	82,269
2034	143,670		3.130%	0.63961	91,893	3.776%	0.58420	83,933
2035	151,845		3.130%	0.62020	94,175	3.776%	0.56294	85,481
2036	160,358		3.130%	0.60138	96,436	3.776%	0.54246	86,988
2037	168,559		3.130%	0.58313	98,291	3.776%	0.52272	88,109
2038	176,574		3.130%	0.56543	99,840	3.776%	0.50370	88,940
2039	184,539		3.130%	0.54827	101,177	3.776%	0.48537	89,569
2040	192,518		3.130%	0.53163	102,348	3.776%	0.46770	90,041
2041	200,448		3.130%	0.51549	103,330	3.776%	0.45068	90,339
2042	208,056		3.130%	0.49985	103,996	3.776%	0.43428	90,355
2043	215,318		3.130%	0.48468	104,360	3.776%	0.41848	90,106
2044	222,365		3.130%	0.46997	104,504	3.776%	0.40325	89,669
2045	228,927		3.130%	0.45570	104,323	3.776%	0.38858	88,955
2046	234,807		3.130%	0.44187	103,755	3.776%	0.37443	87,920
2047	240,048		3.130%	0.42846	102,851	3.776%	0.36081	86,611
2048	244,437		3.130%	0.41546	101,553	3.776%	0.34768	84,986
2049	247,478		6.750%	0.38919	96,315	3.776%	0.33503	82,912
2050	249,315		6.750%	0.36458	90,895	3.776%	0.32283	80,488
2051	250,738		6.750%	0.34153	85,634	3.776%	0.31109	78,001
2052	251,513		6.750%	0.31993	80,467	3.776%	0.29977	75,395
2053	251,408		6.750%	0.29970	75,347	3.776%	0.28886	72,621
2054	250,976		6.750%	0.28075	70,462	3.776%	0.27835	69,858
2055	249,750		6.750%	0.26300	65,684	3.776%	0.26822	66,987
2056	247,848		6.750%	0.24637	61,062	3.776%	0.25846	64,058
2066	225,329		6.750%	0.12821	28,888	3.776%	0.17840	40,199
2076	169,493		6.750%	0.06672	11,308	3.776%	0.12314	20,872
2086	69,098		6.750%	0.03472	2,399	3.776%	0.08500	5,873
2096	9,661		6.750%	0.01807	175	3.776%	0.05867	567
2106	256		6.750%	0.00940	2	3.776%	0.04050	10
2116	6		6.750%	0.00489	-	3.776%	0.02795	

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) BARGAINING UNIT NUMBER 8 FIREFIGHTERS			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 116,930	\$ 101,638	\$ 95,936
Interest on Total OPEB Liability	88,265	97,944	97,316
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(195,606)	(80,403)
Changes of Assumptions	(248,744)	4,237	124,662
Benefit Payments	(49,073)	(48,175)	(40,965)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (92,622)</b>	<b>\$ (39,962)</b>	<b>\$ 196,546</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 2,400,763</b>	<b>\$ 2,308,141</b>	<b>\$ 2,268,179</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 2,308,141</b>	<b>\$ 2,268,179</b>	<b>\$ 2,464,725</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 49,073	\$ 48,175	\$ 40,965
Employer Pre-Funding Contributions	-	6,066	13,772
Active Member Contributions	-	6,066	13,772
Net Investment Income	-	176	2,397
Benefit Payments	(49,073)	(48,175)	(40,965)
Administrative Expense	-	(3)	(6)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ -</b>	<b>\$ 12,305</b>	<b>\$ 29,935</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 12,297</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ -</b>	<b>\$ 12,305</b>	<b>\$ 42,232</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 2,308,141</b>	<b>\$ 2,255,874</b>	<b>\$ 2,422,493</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.000%</b>	<b>0.543%</b>	<b>1.713%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 118,158</b>	<b>\$ 115,637</b>	<b>\$ 111,963</b>
<b>Employer Contribution</b>	<b>\$ 49,073</b>	<b>\$ 54,241</b>	<b>\$ 54,737</b>
<b>Percentage of ADC made by Employer</b>	<b>42%</b>	<b>47%</b>	<b>49%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (69,085)</b>	<b>\$ (61,396)</b>	<b>\$ (57,226)</b>
<b>Expected Return on Assets</b>	<b>\$ -</b>	<b>\$ 434</b>	<b>\$ 1,808</b>
<b>Investment (Gain)/Loss</b>	<b>\$ -</b>	<b>\$ 258</b>	<b>\$ (589)</b>
<b>Average Expected Remaining Service</b>	<b>9.568629</b>	<b>9.356156</b>	<b>8.815624</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.540%</b>	<b>4.108%</b>	<b>4.152%</b>
<b>Blended Discount Rate End of Year</b>	<b>4.108%</b>	<b>4.152%</b>	<b>3.776%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>



## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S) BARGAINING UNIT NUMBER 8 FIREFIGHTERS		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 101,638	\$ 95,936
Interest on the Total OPEB Liability	97,944	97,316
Current-Period Benefit Changes	-	-
Active Member Contributions	(6,066)	(13,772)
Projected Earnings on Plan Investments	(434)	(1,808)
Operating Expenses	3	6
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(20,907)	(30,028)
Recognition of Outflow/(Inflow) due to Assumption Changes	(25,543)	(11,402)
Recognition of Outflow/(Inflow) due to Investment Experience	52	(66)
<b>Net OPEB Expense</b>	<b>\$ 146,687</b>	<b>\$ 136,182</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 2,308,141</b>	<b>\$ 2,255,882</b>
OPEB Expense	146,687	136,182
Employer Contributions	(54,241)	(54,737)
Change in Outflow/(Inflow) due to Non-investment Experience	(174,699)	(50,375)
Change in Outflow/(Inflow) due to Assumption Changes	29,780	136,064
Change in Outflow/(Inflow) due to Investment Experience	206	(523)
<b>Net OPEB Liability End of Year</b>	<b>\$ 2,255,874</b>	<b>\$ 2,422,493</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (174,699)	\$ (225,074)
Assumption Changes	\$ (196,752)	\$ (170,756)
Investment Experience	\$ -	\$ (471)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ -
Assumption Changes	\$ 3,784	\$ 113,852
Investment Experience	\$ 206	\$ 154
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	4.152%	3.776%
Baseline Discount Rate and Trend Rates	\$ 2,255,874	\$ 2,422,493
Increase Discount Rate by One Percentage Point	\$ 1,902,960	\$ 2,038,226
Decrease Discount Rate by One Percentage Point	\$ 2,710,844	\$ 2,918,656
Increase Trend Rate by One Percentage Point	\$ 2,684,581	\$ 2,964,208
Decrease Trend Rate by One Percentage Point	\$ 1,928,567	\$ 2,011,163



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) BARGAINING UNIT NUMBER 8 FIREFIGHTERS									
Valuation Date	6/30/2019								
Measurement Date	6/30/2019								
	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
Plan Year Beginning									
7/1/2016	\$ -	9.568629	\$ -	\$ (248,744)	9.568629	\$ (25,996)	\$ -	5.000000	\$ -
7/1/2017	\$ (195,606)	9.356156	\$ (20,907)	\$ 4,237	9.356156	\$ 453	\$ 258	5.000000	\$ 52
7/1/2018	\$ (80,403)	8.815624	\$ (9,121)	\$ 124,662	8.815624	\$ 14,141	\$ (589)	5.000000	\$ (118)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ -	\$ (30,028)	\$ (30,028)	\$ 14,594	\$ (25,996)	\$ (11,402)	\$ 52	\$ (118)	\$ (66)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ -	\$ (30,028)	\$ (30,028)	\$ 14,594	\$ (25,996)	\$ (11,402)	\$ 52	\$ (118)	\$ (66)
6/30/2021	\$ -	\$ (30,028)	\$ (30,028)	\$ 14,594	\$ (25,996)	\$ (11,402)	\$ 52	\$ (118)	\$ (66)
6/30/2022	\$ -	\$ (30,028)	\$ (30,028)	\$ 14,594	\$ (25,996)	\$ (11,402)	\$ 50	\$ (118)	\$ (68)
6/30/2023	\$ -	\$ (30,028)	\$ (30,028)	\$ 14,594	\$ (25,996)	\$ (11,402)	\$ -	\$ (117)	\$ (117)
6/30/2024	\$ -	\$ (30,028)	\$ (30,028)	\$ 14,594	\$ (25,996)	\$ (11,402)	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ (30,028)	\$ (30,028)	\$ 14,594	\$ (25,996)	\$ (11,402)	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ (30,028)	\$ (30,028)	\$ 14,594	\$ (14,780)	\$ (186)	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ (14,878)	\$ (14,878)	\$ 11,694	\$ -	\$ 11,694	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ (225,074)	\$ (225,074)	\$ 113,852	\$ (170,756)	\$ (56,904)	\$ 154	\$ (471)	\$ (317)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ (50,375)			\$ 136,064			\$ (523)

## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>BARGAINING UNIT NUMBER 9</b> <b>PROFESSIONAL ENGINEERS</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	12,462	13,265
Retired Participants <sup>a</sup>	<u>6,868</u>	<u>7,137</u>
Total Participants	19,330	20,402
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 1,904,675	\$ 1,949,343
Retired Participants	<u>1,192,145</u>	<u>1,306,505</u>
Total Participants	\$ 3,096,820	\$ 3,255,848
Actuarial Accrued Liability		
Active Participants	\$ 1,462,748	\$ 1,482,463
Retired Participants	<u>1,192,145</u>	<u>1,306,505</u>
Total Participants	\$ 2,654,893	\$ 2,788,968
Actuarial Value of Assets	\$ 53,429	\$ 84,788
Unfunded Actuarial Accrued Liability	\$ 2,601,464	\$ 2,704,180
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 55,283	\$ 57,163
Administrative Expenses	233	257
Amortization of UAAL	<u>149,472</u>	<u>158,465</u>
Total ADC	\$ 204,988	\$ 215,885
Estimated Member Contributions	<u>(13,879)</u>	<u>(21,532)</u>
Net Employer ADC	\$ 191,109	\$ 194,353
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 62,277	\$ 65,523
Part B Reimbursement	11,820	13,053
Dental Claims	<u>4,627</u>	<u>4,892</u>
Total	\$ 78,724	\$ 83,468
Employer Implicit Costs	<u>14,477</u>	<u>19,309</u>
Total Employer Costs	\$ 93,201	\$ 102,777
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 4,184	\$ 4,153
Dental Claims	<u>1,466</u>	<u>1,513</u>
Total	\$ 5,650	\$ 5,666
Total Claims Costs	\$ 98,851	\$ 108,443

<sup>a</sup>Retired participants with dental only coverage, 306 as of July 1, 2018, and 313 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
BARGAINING UNIT NUMBER 9  
PROFESSIONAL ENGINEERS

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2048

FYE	Assets (boy)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ 53,391	\$ -	\$ 14	\$ 26,622	\$ 4,789	\$ 84,788	\$ 2,788,968	3.0%	\$ 57,163
2020	84,788	-	257	43,065	7,144	134,740	2,931,999	4.6%	53,893
2021	134,740	-	293	54,186	10,884	199,517	3,066,372	6.5%	50,918
2022	199,517	-	330	51,249	15,158	265,594	3,191,132	8.3%	48,075
2023	265,594	-	366	48,441	19,524	333,193	3,306,391	10.1%	45,316
2024	333,193	-	402	45,719	23,995	402,505	3,411,664	11.8%	42,653
2025	402,505	-	436	43,090	28,585	473,744	3,507,187	13.5%	40,123
2026	473,744	-	467	40,589	33,310	547,176	3,593,898	15.2%	37,709
2027	547,176	-	493	38,202	38,186	623,071	3,673,081	17.0%	35,400
2028	623,071	-	517	35,917	43,232	701,703	3,745,094	18.7%	33,205
2029	701,703	-	541	33,746	48,467	783,375	3,809,675	20.6%	31,121
2030	783,375	-	564	31,685	53,911	868,407	3,866,869	22.5%	29,137
2031	868,407	-	586	29,723	59,585	957,129	3,916,628	24.4%	27,243
2032	957,129	-	609	27,852	65,511	1,049,883	3,958,360	26.5%	25,439
2033	1,049,883	-	632	26,070	71,712	1,147,033	3,991,621	28.7%	23,721
2034	1,147,033	-	653	24,374	78,212	1,248,966	4,016,387	31.1%	22,088
2035	1,248,966	-	674	22,762	85,039	1,356,093	4,032,414	33.6%	20,535
2036	1,356,093	-	695	21,229	92,218	1,468,845	4,039,342	36.4%	19,064
2037	1,468,845	-	713	19,777	99,780	1,587,689	4,037,485	39.3%	17,657
2038	1,587,689	-	729	18,386	107,755	1,713,101	4,027,440	42.5%	16,294
2039	1,713,101	-	744	17,039	116,175	1,845,571	4,009,001	46.0%	14,971
2040	1,845,571	-	759	15,731	125,073	1,985,616	3,981,706	49.9%	13,694
2041	1,985,616	-	772	14,466	134,484	2,133,794	3,945,958	54.1%	12,467
2042	2,133,794	-	783	13,250	144,445	2,290,706	3,901,773	58.7%	11,287
2043	2,290,706	-	795	12,082	154,997	2,456,990	3,848,541	63.8%	10,152
2044	2,456,990	-	805	10,957	166,184	2,633,326	3,786,294	69.5%	9,064
2045	2,633,326	-	813	9,877	178,050	2,820,440	3,715,311	75.9%	8,030
2046	2,820,440	-	820	8,850	190,646	3,019,116	3,635,715	83.0%	7,054
2047	3,019,116	-	824	7,878	204,024	3,230,194	3,548,135	91.0%	6,131
2048	3,230,194	-	824	6,955	218,241	3,454,566	3,453,467	100.0%	5,265
2049	3,454,566	299,250	822	-	223,221	3,377,715	3,352,255	100.8%	4,460
2050	3,377,715	327,171	818	-	217,107	3,266,833	3,245,235	100.7%	3,713
2051	3,266,833	324,056	810	-	209,726	3,151,693	3,133,414	100.6%	3,028
2052	3,151,693	320,122	800	-	202,085	3,032,856	3,017,382	100.5%	2,420
2053	3,032,856	315,256	788	-	194,225	2,911,037	2,897,898	100.5%	1,887
2054	2,911,037	309,375	773	-	186,198	2,787,087	2,775,858	100.4%	1,431
2055	2,787,087	302,731	757	-	178,053	2,661,652	2,651,960	100.4%	1,055
2056	2,661,652	295,077	738	-	169,840	2,535,677	2,527,208	100.3%	760
2057	2,535,677	286,402	716	-	161,626	2,410,185	2,402,685	100.3%	537



## Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM							
DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S)							
BARGAINING UNIT NUMBER 9							
PROFESSIONAL ENGINEERS							
20-Year GO Municipal Bond Rate at June 30, 2019				3.130%			
Long-Term Investment Return				6.750%			
Year Plan is Fully Funded				2048			
Single Equivalent Rate				3.586%			
Present Value of Benefits				\$ 5,791,606		\$ 5,791,606	
FYE	Net Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 102,777	3.130%	0.98471	\$ 101,205	3.586%	0.98254	\$ 100,982
2021	117,127	3.130%	0.95482	111,836	3.586%	0.94852	111,098
2022	132,133	3.130%	0.92584	122,335	3.586%	0.91569	120,993
2023	146,542	3.130%	0.89774	131,557	3.586%	0.88399	129,541
2024	160,886	3.130%	0.87050	140,051	3.586%	0.85339	137,298
2025	174,448	3.130%	0.84408	147,247	3.586%	0.82384	143,718
2026	186,601	3.130%	0.81846	152,726	3.586%	0.79532	148,409
2027	197,062	3.130%	0.79362	156,392	3.586%	0.76779	151,303
2028	206,786	3.130%	0.76953	159,128	3.586%	0.74121	153,272
2029	216,420	3.130%	0.74618	161,488	3.586%	0.71555	154,860
2030	225,632	3.130%	0.72353	163,252	3.586%	0.69078	155,862
2031	234,515	3.130%	0.70157	164,529	3.586%	0.66687	156,390
2032	243,580	3.130%	0.68028	165,703	3.586%	0.64378	156,812
2033	252,643	3.130%	0.65963	166,651	3.586%	0.62149	157,016
2034	261,261	3.130%	0.63961	167,106	3.586%	0.59998	156,751
2035	269,651	3.130%	0.62020	167,237	3.586%	0.57921	156,184
2036	277,900	3.130%	0.60138	167,123	3.586%	0.55916	155,390
2037	285,338	3.130%	0.58313	166,388	3.586%	0.53980	154,026
2038	291,690	3.130%	0.56543	164,930	3.586%	0.52111	152,004
2039	297,750	3.130%	0.54827	163,246	3.586%	0.50307	149,790
2040	303,752	3.130%	0.53163	161,483	3.586%	0.48566	147,520
2041	308,832	3.130%	0.51549	159,201	3.586%	0.46885	144,795
2042	313,395	3.130%	0.49985	156,650	3.586%	0.45262	141,847
2043	318,049	3.130%	0.48468	154,151	3.586%	0.43695	138,970
2044	322,125	3.130%	0.46997	151,388	3.586%	0.42182	135,879
2045	325,393	3.130%	0.45570	148,283	3.586%	0.40722	132,506
2046	328,026	3.130%	0.44187	144,946	3.586%	0.39312	128,953
2047	329,548	3.130%	0.42846	141,199	3.586%	0.37951	125,067
2048	329,734	3.130%	0.41546	136,991	3.586%	0.36637	120,806
2049	328,991	6.750%	0.38919	128,039	3.586%	0.35369	116,361
2050	327,171	6.750%	0.36458	119,280	3.586%	0.34145	111,711
2051	324,056	6.750%	0.34153	110,674	3.586%	0.32963	106,817
2052	320,122	6.750%	0.31993	102,417	3.586%	0.31821	101,867
2053	315,256	6.750%	0.29970	94,482	3.586%	0.30720	96,846
2054	309,375	6.750%	0.28075	86,857	3.586%	0.29656	91,749
2055	302,731	6.750%	0.26300	79,618	3.586%	0.28630	86,671
2056	295,077	6.750%	0.24637	72,698	3.586%	0.27639	81,555
2066	196,564	6.750%	0.12821	25,201	3.586%	0.19432	38,195
2076	103,895	6.750%	0.06672	6,931	3.586%	0.13661	14,194
2086	32,616	6.750%	0.03472	1,132	3.586%	0.09605	3,133
2096	3,274	6.750%	0.01807	59	3.586%	0.06753	221
2106	24	6.750%	0.00940	-	3.586%	0.04748	1
2116	-	6.750%	0.00489	-	3.586%	0.03338	-

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) BARGAINING UNIT NUMBER 9 PROFESSIONAL ENGINEERS			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 166,173	\$ 142,954	\$ 127,060
Interest on Total OPEB Liability	154,495	174,062	165,399
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(334,650)	(88,806)
Changes of Assumptions	(475,991)	(200,549)	145,634
Benefit Payments	(82,449)	(85,278)	(84,522)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (237,772)</b>	<b>\$ (303,461)</b>	<b>\$ 264,765</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 4,640,159</b>	<b>\$ 4,402,387</b>	<b>\$ 4,098,926</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 4,402,387</b>	<b>\$ 4,098,926</b>	<b>\$ 4,363,691</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 82,449	\$ 85,278	\$ 84,522
Employer Pre-Funding Contributions	35,210	5,688	13,311
Active Member Contributions	-	5,688	13,311
Net Investment Income	3,630	3,246	4,789
Benefit Payments	(82,449)	(85,278)	(84,522)
Administrative Expense	(11)	(22)	(14)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ 38,829</b>	<b>\$ 14,600</b>	<b>\$ 31,397</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ 38,829</b>	<b>\$ 53,391</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 38,829</b>	<b>\$ 53,429</b>	<b>\$ 84,788</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 4,363,558</b>	<b>\$ 4,045,497</b>	<b>\$ 4,278,903</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.882%</b>	<b>1.304%</b>	<b>1.943%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 200,997</b>	<b>\$ 201,339</b>	<b>\$ 191,677</b>
<b>Employer Contribution</b>	<b>\$ 117,659</b>	<b>\$ 90,966</b>	<b>\$ 97,833</b>
<b>Percentage of ADC made by Employer</b>	<b>59%</b>	<b>45%</b>	<b>51%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (83,338)</b>	<b>\$ (110,373)</b>	<b>\$ (93,844)</b>
<b>Expected Return on Assets</b>	<b>\$ 1,778</b>	<b>\$ 3,233</b>	<b>\$ 4,653</b>
<b>Investment (Gain)/Loss</b>	<b>\$ (1,852)</b>	<b>\$ (13)</b>	<b>\$ (136)</b>
<b>Average Expected Remaining Service</b>	<b>5.858108</b>	<b>6.293618</b>	<b>6.507386</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.242%</b>	<b>3.866%</b>	<b>3.953%</b>
<b>Blended Discount Rate End of Year</b>	<b>3.866%</b>	<b>3.953%</b>	<b>3.586%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>



## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S) BARGAINING UNIT NUMBER 9 PROFESSIONAL ENGINEERS		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 142,954	\$ 127,060
Interest on the Total OPEB Liability	174,062	165,399
Current-Period Benefit Changes	-	-
Active Member Contributions	(5,688)	(13,311)
Projected Earnings on Plan Investments	(3,233)	(4,653)
Operating Expenses	22	14
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(53,173)	(66,820)
Recognition of Outflow/(Inflow) due to Assumption Changes	(113,118)	(90,738)
Recognition of Outflow/(Inflow) due to Investment Experience	(373)	(400)
<b>Net OPEB Expense</b>	<b>\$ 141,453</b>	<b>\$ 116,551</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 4,363,558</b>	<b>\$ 4,045,535</b>
OPEB Expense	141,453	116,551
Employer Contributions	(90,966)	(97,833)
Change in Outflow/(Inflow) due to Non-investment Experience	(281,477)	(21,986)
Change in Outflow/(Inflow) due to Assumption Changes	(87,431)	236,372
Change in Outflow/(Inflow) due to Investment Experience	360	264
<b>Net OPEB Liability End of Year</b>	<b>\$ 4,045,497</b>	<b>\$ 4,278,903</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (281,477)	\$ (303,463)
Assumption Changes	\$ (482,169)	\$ (369,051)
Investment Experience	\$ (1,122)	\$ (858)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ -
Assumption Changes	\$ -	\$ 123,254
Investment Experience	\$ -	\$ -
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	3.953%	3.586%
Baseline Discount Rate and Trend Rates	\$ 4,045,497	\$ 4,278,903
Increase Discount Rate by One Percentage Point	\$ 3,466,633	\$ 3,664,301
Decrease Discount Rate by One Percentage Point	\$ 4,768,695	\$ 5,047,122
Increase Trend Rate by One Percentage Point	\$ 4,700,881	\$ 5,117,036
Decrease Trend Rate by One Percentage Point	\$ 3,529,470	\$ 3,620,852



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) BARGAINING UNIT NUMBER 9 PROFESSIONAL ENGINEERS									
Valuation Date	6/30/2019								
Measurement Date	6/30/2019								
	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
Plan Year Beginning									
7/1/2016	\$ -	5.858108	\$ -	\$ (475,991)	5.858108	\$ (81,253)	\$ (1,852)	\$ 5.000000	\$ (370)
7/1/2017	\$ (334,650)	6.293618	\$ (53,173)	\$ (200,549)	6.293618	\$ (31,865)	\$ (13)	5.000000	\$ (3)
7/1/2018	\$ (88,806)	6.507386	\$ (13,647)	\$ 145,634	6.507386	\$ 22,380	\$ (136)	5.000000	\$ (27)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ -	\$ (66,820)	\$ (66,820)	\$ 22,380	\$ (113,118)	\$ (90,738)	\$ -	\$ (400)	\$ (400)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ -	\$ (66,820)	\$ (66,820)	\$ 22,380	\$ (113,118)	\$ (90,738)	\$ -	\$ (400)	\$ (400)
6/30/2021	\$ -	\$ (66,820)	\$ (66,820)	\$ 22,380	\$ (113,118)	\$ (90,738)	\$ -	\$ (402)	\$ (402)
6/30/2022	\$ -	\$ (66,820)	\$ (66,820)	\$ 22,380	\$ (101,591)	\$ (79,211)	\$ -	\$ (28)	\$ (28)
6/30/2023	\$ -	\$ (66,820)	\$ (66,820)	\$ 22,380	\$ (31,865)	\$ (9,485)	\$ -	\$ (28)	\$ (28)
6/30/2024	\$ -	\$ (29,259)	\$ (29,259)	\$ 22,380	\$ (9,359)	\$ 13,021	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ (6,924)	\$ (6,924)	\$ 11,354	\$ -	\$ 11,354	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ (303,463)	\$ (303,463)	\$ 123,254	\$ (369,051)	\$ (245,797)	\$ -	\$ (858)	\$ (858)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ (21,986)			\$ 236,372			\$ 264



## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>BARGAINING UNIT NUMBER 10</b> <b>PROFESSIONAL SCIENTIFIC</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	3,851	4,048
Retired Participants <sup>a</sup>	<u>1,870</u>	<u>1,973</u>
Total Participants	5,721	6,021
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 468,985	\$ 477,405
Retired Participants	<u>323,838</u>	<u>358,428</u>
Total Participants	\$ 792,823	\$ 835,833
Actuarial Accrued Liability		
Active Participants	\$ 314,569	\$ 315,416
Retired Participants	<u>323,838</u>	<u>358,428</u>
Total Participants	\$ 638,407	\$ 673,844
Actuarial Value of Assets	\$ 13,455	\$ 23,658
Unfunded Actuarial Accrued Liability	\$ 624,952	\$ 650,186
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 16,360	\$ 16,753
Administrative Expenses	58	64
Amortization of UAAL	<u>35,908</u>	<u>38,101</u>
Total ADC	\$ 52,326	\$ 54,918
Estimated Member Contributions	<u>(4,105)</u>	<u>(6,307)</u>
Net Employer ADC	\$ 48,221	\$ 48,611
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 15,505	\$ 16,376
Part B Reimbursement	3,328	3,710
Dental Claims	<u>1,227</u>	<u>1,299</u>
Total	\$ 20,060	\$ 21,385
Employer Implicit Costs	<u>3,115</u>	<u>4,404</u>
Total Employer Costs	\$ 23,175	\$ 25,789
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 925	\$ 942
Dental Claims	<u>390</u>	<u>405</u>
Total	\$ 1,315	\$ 1,347
Total Claims Costs	\$ 24,490	\$ 27,136

<sup>a</sup>Retired participants with dental only coverage, 90 as of July 1, 2018, and 92 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
BARGAINING UNIT NUMBER 10  
PROFESSIONAL SCIENTIFIC

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2048

FYE	Assets (bo)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eo)	Accrued Liability (eo)	Funded Ratio	Normal Cost
2019	\$ 13,446	\$ -	\$ 4	\$ 8,886	\$ 1,330	\$ 23,658	\$ 673,844	3.5%	\$ 16,753
2020	23,658	-	64	12,613	2,014	38,221	710,554	5.4%	16,070
2021	38,221	-	72	16,141	3,113	57,403	745,929	7.7%	15,482
2022	57,403	-	80	15,562	4,389	77,274	779,728	9.9%	14,942
2023	77,274	-	88	15,030	5,712	97,928	812,111	12.1%	14,432
2024	97,928	-	95	14,527	7,089	119,449	843,168	14.2%	13,946
2025	119,449	-	102	14,048	8,526	141,921	872,957	16.3%	13,487
2026	141,921	-	108	13,595	10,028	165,436	901,564	18.4%	13,048
2027	165,436	-	114	13,162	11,600	190,084	929,152	20.5%	12,623
2028	190,084	-	120	12,743	13,250	215,957	955,758	22.6%	12,212
2029	215,957	-	126	12,338	14,983	243,152	981,261	24.8%	11,805
2030	243,152	-	132	11,937	16,805	271,762	1,005,539	27.0%	11,398
2031	271,762	-	138	11,536	18,722	301,882	1,028,344	29.4%	10,982
2032	301,882	-	145	11,127	20,742	333,606	1,049,551	31.8%	10,552
2033	333,606	-	151	10,704	22,869	367,028	1,069,069	34.3%	10,111
2034	367,028	-	158	10,269	25,110	402,249	1,086,616	37.0%	9,659
2035	402,249	-	165	9,824	27,472	439,380	1,102,044	39.9%	9,197
2036	439,380	-	172	9,369	29,963	478,540	1,115,326	42.9%	8,719
2037	478,540	-	178	8,897	32,591	519,850	1,126,425	46.2%	8,227
2038	519,850	-	184	8,411	35,363	563,440	1,135,280	49.6%	7,726
2039	563,440	-	189	7,915	38,289	609,455	1,141,955	53.4%	7,216
2040	609,455	-	194	7,411	41,378	658,050	1,146,366	57.4%	6,703
2041	658,050	-	200	6,903	44,641	709,394	1,148,321	61.8%	6,184
2042	709,394	-	204	6,388	48,089	763,667	1,147,986	66.5%	5,659
2043	763,667	-	208	5,868	51,735	821,062	1,145,340	71.7%	5,129
2044	821,062	-	213	5,342	55,592	881,783	1,140,102	77.3%	4,599
2045	881,783	-	217	4,816	59,673	946,055	1,132,340	83.5%	4,080
2046	946,055	-	220	4,300	63,994	1,014,129	1,122,059	90.4%	3,572
2047	1,014,129	-	223	3,796	68,572	1,086,274	1,109,307	97.9%	3,083
2048	1,086,274	54,144	226	3,309	71,628	1,106,841	1,094,092	101.2%	2,615
2049	1,106,841	91,349	228	-	71,671	1,086,935	1,076,345	101.0%	2,176
2050	1,086,935	92,060	230	-	70,304	1,064,949	1,056,198	100.8%	1,774
2051	1,064,949	92,462	231	-	68,806	1,041,062	1,033,848	100.7%	1,411
2052	1,041,062	92,430	231	-	67,195	1,015,596	1,009,636	100.6%	1,095
2053	1,015,596	92,041	230	-	65,489	988,814	983,854	100.5%	827
2054	988,814	91,240	228	-	63,708	961,054	956,874	100.4%	608
2055	961,054	90,062	225	-	61,873	932,640	929,057	100.4%	436
2056	932,640	88,747	222	-	59,999	903,670	900,539	100.3%	307
2057	903,670	87,186	218	-	58,095	874,361	871,570	100.3%	215

## Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM								
DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S)								
BARGAINING UNIT NUMBER 10								
PROFESSIONAL SCIENTIFIC								
20-Year GO Municipal Bond Rate at June 30, 2019			3.130%					
Long-Term Investment Return			6.750%					
Year Plan is Fully Funded			2048					
Single Equivalent Rate			3.690%					
Present Value of Benefits			\$ 1,533,143			\$ 1,533,143		
FYE	Net Employer Benefits		Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 25,789		3.130%	0.98471	\$ 25,394	3.690%	0.98205	\$ 25,325
2021	28,772		3.130%	0.95482	27,472	3.690%	0.94710	27,250
2022	32,003		3.130%	0.92584	29,629	3.690%	0.91339	29,231
2023	35,022		3.130%	0.89774	31,441	3.690%	0.88089	30,850
2024	37,893		3.130%	0.87050	32,986	3.690%	0.84954	32,191
2025	40,648		3.130%	0.84408	34,310	3.690%	0.81930	33,303
2026	43,264		3.130%	0.81846	35,410	3.690%	0.79015	34,185
2027	45,664		3.130%	0.79362	36,240	3.690%	0.76203	34,797
2028	47,977		3.130%	0.76953	36,920	3.690%	0.73491	35,259
2029	50,360		3.130%	0.74618	37,577	3.690%	0.70876	35,693
2030	52,790		3.130%	0.72353	38,195	3.690%	0.68353	36,084
2031	55,381		3.130%	0.70157	38,854	3.690%	0.65921	36,507
2032	57,989		3.130%	0.68028	39,448	3.690%	0.63575	36,866
2033	60,564		3.130%	0.65963	39,950	3.690%	0.61312	37,133
2034	63,291		3.130%	0.63961	40,482	3.690%	0.59130	37,424
2035	66,022		3.130%	0.62020	40,947	3.690%	0.57026	37,649
2036	68,629		3.130%	0.60138	41,272	3.690%	0.54997	37,744
2037	71,117		3.130%	0.58313	41,470	3.690%	0.53039	37,720
2038	73,506		3.130%	0.56543	41,562	3.690%	0.51152	37,600
2039	75,677		3.130%	0.54827	41,491	3.690%	0.49332	37,333
2040	77,778		3.130%	0.53163	41,349	3.690%	0.47576	37,004
2041	79,914		3.130%	0.51549	41,195	3.690%	0.45883	36,667
2042	81,721		3.130%	0.49985	40,848	3.690%	0.44250	36,162
2043	83,396		3.130%	0.48468	40,420	3.690%	0.42675	35,589
2044	85,184		3.130%	0.46997	40,034	3.690%	0.41157	35,059
2045	86,738		3.130%	0.45570	39,527	3.690%	0.39692	34,428
2046	88,133		3.130%	0.44187	38,943	3.690%	0.38279	33,737
2047	89,330		3.130%	0.42846	38,274	3.690%	0.36917	32,978
2048	90,376		3.130%	0.41546	37,547	3.690%	0.35603	32,177
2049	91,349		6.750%	0.38919	35,552	3.690%	0.34336	31,366
2050	92,060		6.750%	0.36458	33,563	3.690%	0.33114	30,485
2051	92,462		6.750%	0.34153	31,578	3.690%	0.31936	29,529
2052	92,430		6.750%	0.31993	29,571	3.690%	0.30799	28,468
2053	92,041		6.750%	0.29970	27,585	3.690%	0.29703	27,339
2054	91,240		6.750%	0.28075	25,616	3.690%	0.28646	26,137
2055	90,062		6.750%	0.26300	23,686	3.690%	0.27627	24,881
2056	88,747		6.750%	0.24637	21,864	3.690%	0.26644	23,645
2066	74,182		6.750%	0.12821	9,511	3.690%	0.18545	13,757
2076	46,940		6.750%	0.06672	3,132	3.690%	0.12908	6,059
2086	14,413		6.750%	0.03472	500	3.690%	0.08984	1,295
2096	1,079		6.750%	0.01807	20	3.690%	0.06253	68
2106	12		6.750%	0.00940	-	3.690%	0.04352	1
2116	-		6.750%	0.00489	-	3.690%	0.03029	

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) BARGAINING UNIT NUMBER 10 PROFESSIONAL SCIENTIFIC			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 45,853	\$ 39,944	\$ 35,836
Interest on Total OPEB Liability	37,273	41,883	40,598
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(61,856)	(15,887)
Changes of Assumptions	(103,789)	(43,731)	36,442
Benefit Payments	(20,533)	(26,302)	(23,092)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (41,196)</b>	<b>\$ (50,062)</b>	<b>\$ 73,897</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 1,060,929</b>	<b>\$ 1,019,733</b>	<b>\$ 969,671</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 1,019,733</b>	<b>\$ 969,671</b>	<b>\$ 1,043,568</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 20,533	\$ 26,302	\$ 23,092
Employer Pre-Funding Contributions	8,119	1,872	4,443
Active Member Contributions	-	1,872	4,443
Net Investment Income	838	763	1,330
Benefit Payments	(20,533)	(26,302)	(23,092)
Administrative Expense	(3)	(6)	(4)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ 8,954</b>	<b>\$ 4,501</b>	<b>\$ 10,212</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ 8,954</b>	<b>\$ 13,446</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 8,954</b>	<b>\$ 13,455</b>	<b>\$ 23,658</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 1,010,779</b>	<b>\$ 956,216</b>	<b>\$ 1,019,910</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.878%</b>	<b>1.388%</b>	<b>2.267%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 50,708</b>	<b>\$ 50,357</b>	<b>\$ 47,883</b>
<b>Employer Contribution</b>	<b>\$ 28,652</b>	<b>\$ 28,174</b>	<b>\$ 27,535</b>
<b>Percentage of ADC made by Employer</b>	<b>57%</b>	<b>56%</b>	<b>58%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (22,056)</b>	<b>\$ (22,183)</b>	<b>\$ (20,348)</b>
<b>Expected Return on Assets</b>	<b>\$ 410</b>	<b>\$ 786</b>	<b>\$ 1,247</b>
<b>Investment (Gain)/Loss</b>	<b>\$ (428)</b>	<b>\$ 23</b>	<b>\$ (83)</b>
<b>Average Expected Remaining Service</b>	<b>7.400512</b>	<b>7.965646</b>	<b>8.186229</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.399%</b>	<b>3.993%</b>	<b>4.084%</b>
<b>Blended Discount Rate End of Year</b>	<b>3.993%</b>	<b>4.084%</b>	<b>3.690%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>



## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S) BARGAINING UNIT NUMBER 10 PROFESSIONAL SCIENTIFIC		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 39,944	\$ 35,836
Interest on the Total OPEB Liability	41,883	40,598
Current-Period Benefit Changes	-	-
Active Member Contributions	(1,872)	(4,443)
Projected Earnings on Plan Investments	(786)	(1,247)
Operating Expenses	6	4
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(7,765)	(9,706)
Recognition of Outflow/(Inflow) due to Assumption Changes	(19,515)	(15,063)
Recognition of Outflow/(Inflow) due to Investment Experience	(81)	(98)
<b>Net OPEB Expense</b>	<b>\$ 51,814</b>	<b>\$ 45,881</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 1,010,779</b>	<b>\$ 956,225</b>
OPEB Expense	51,814	45,881
Employer Contributions	(28,174)	(27,535)
Change in Outflow/(Inflow) due to Non-investment Experience	(54,091)	(6,181)
Change in Outflow/(Inflow) due to Assumption Changes	(24,216)	51,505
Change in Outflow/(Inflow) due to Investment Experience	104	15
<b>Net OPEB Liability End of Year</b>	<b>\$ 956,216</b>	<b>\$ 1,019,910</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (54,091)	\$ (60,272)
Assumption Changes	\$ (113,980)	\$ (94,465)
Investment Experience	\$ (256)	\$ (236)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ -
Assumption Changes	\$ -	\$ 31,990
Investment Experience	\$ 18	\$ 13
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	4.084%	3.690%
Baseline Discount Rate and Trend Rates	\$ 956,216	\$ 1,019,910
Increase Discount Rate by One Percentage Point	\$ 819,061	\$ 871,959
Decrease Discount Rate by One Percentage Point	\$ 1,127,676	\$ 1,205,051
Increase Trend Rate by One Percentage Point	\$ 1,114,047	\$ 1,225,771
Decrease Trend Rate by One Percentage Point	\$ 832,924	\$ 859,876



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) BARGAINING UNIT NUMBER 10 PROFESSIONAL SCIENTIFIC									
Valuation Date	6/30/2019								
Measurement Date	6/30/2019								
	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
Plan Year Beginning									
7/1/2016	\$ -	7.400512	\$ -	\$ (103,789)	7.400512	\$ (14,025)	\$ (428)	\$ 5.000000	\$ (86)
7/1/2017	\$ (61,856)	7.965646	\$ (7,765)	\$ (43,731)	7.965646	\$ (5,490)	\$ 23	5.000000	\$ 5
7/1/2018	\$ (15,887)	8.186229	\$ (1,941)	\$ 36,442	8.186229	\$ 4,452	\$ (83)	5.000000	\$ (17)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ -	\$ (9,706)	\$ (9,706)	\$ 4,452	\$ (19,515)	\$ (15,063)	\$ 5	\$ (103)	\$ (98)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ -	\$ (9,706)	\$ (9,706)	\$ 4,452	\$ (19,515)	\$ (15,063)	\$ 5	\$ (103)	\$ (98)
6/30/2021	\$ -	\$ (9,706)	\$ (9,706)	\$ 4,452	\$ (19,515)	\$ (15,063)	\$ 5	\$ (101)	\$ (96)
6/30/2022	\$ -	\$ (9,706)	\$ (9,706)	\$ 4,452	\$ (19,515)	\$ (15,063)	\$ 3	\$ (17)	\$ (14)
6/30/2023	\$ -	\$ (9,706)	\$ (9,706)	\$ 4,452	\$ (19,515)	\$ (15,063)	\$ -	\$ (15)	\$ (15)
6/30/2024	\$ -	\$ (9,706)	\$ (9,706)	\$ 4,452	\$ (11,104)	\$ (6,652)	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ (9,442)	\$ (9,442)	\$ 4,452	\$ (5,301)	\$ (849)	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ (1,941)	\$ (1,941)	\$ 4,452	\$ -	\$ 4,452	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ (359)	\$ (359)	\$ 826	\$ -	\$ 826	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ (60,272)	\$ (60,272)	\$ 31,990	\$ (94,465)	\$ (62,475)	\$ 13	\$ (236)	\$ (223)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ (6,181)			\$ 51,505			\$ 15

## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>BARGAINING UNIT NUMBER 12</b> <b>CRAFT AND MAINTENANCE</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	12,717	13,053
Retired Participants <sup>a</sup>	9,664	9,920
Total Participants	22,381	22,973
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 1,507,747	\$ 1,495,331
Retired Participants	1,680,681	1,795,983
Total Participants	\$ 3,188,428	\$ 3,291,314
Actuarial Accrued Liability		
Active Participants	\$ 981,725	\$ 961,795
Retired Participants	1,680,681	1,795,983
Total Participants	\$ 2,662,406	\$ 2,757,778
Actuarial Value of Assets	\$ 27,808	\$ 63,867
Unfunded Actuarial Accrued Liability	\$ 2,634,598	\$ 2,693,911
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 60,806	\$ 60,360
Administrative Expenses	295	319
Amortization of UAAL	151,376	157,863
Total ADC	\$ 212,477	\$ 218,542
Estimated Member Contributions	(15,275)	(20,226)
Net Employer ADC	\$ 197,202	\$ 198,316
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 79,561	\$ 82,196
Part B Reimbursement	14,740	15,940
Dental Claims	5,944	6,226
Total	\$ 100,245	\$ 104,362
Employer Implicit Costs	17,729	23,265
Total Employer Costs	\$ 117,974	\$ 127,627
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 5,296	\$ 4,998
Dental Claims	1,836	1,880
Total	\$ 7,132	\$ 6,878
Total Claims Costs	\$ 125,106	\$ 134,505

<sup>a</sup>Retired participants with dental only coverage, 592 as of July 1, 2018, and 600 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
BARGAINING UNIT NUMBER 12  
CRAFT AND MAINTENANCE

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2048

FYE	Assets (boy)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ 27,788	\$ -	\$ 9	\$ 32,536	\$ 3,552	\$ 63,867	\$ 2,757,778	2.3%	\$ 60,360
2020	63,867	-	319	40,453	5,643	109,644	2,876,427	3.8%	57,930
2021	109,644	-	344	48,562	9,002	166,864	2,990,287	5.6%	55,608
2022	166,864	-	372	55,980	13,109	235,581	3,097,641	7.6%	53,299
2023	235,581	-	400	53,699	17,671	306,551	3,198,162	9.6%	50,978
2024	306,551	-	427	51,405	22,385	379,914	3,291,916	11.5%	48,662
2025	379,914	-	452	49,114	27,260	455,836	3,379,211	13.5%	46,347
2026	455,836	-	476	46,823	32,308	534,491	3,460,040	15.4%	44,045
2027	534,491	-	498	44,543	37,540	616,076	3,534,658	17.4%	41,781
2028	616,076	-	520	42,301	42,972	700,829	3,602,960	19.5%	39,580
2029	700,829	-	540	40,120	48,620	789,029	3,665,029	21.5%	37,447
2030	789,029	-	561	38,008	54,503	880,979	3,720,349	23.7%	35,374
2031	880,979	-	582	35,956	60,640	976,993	3,768,420	25.9%	33,357
2032	976,993	-	603	33,960	67,054	1,077,404	3,809,195	28.3%	31,383
2033	1,077,404	-	623	32,006	73,767	1,182,554	3,842,384	30.8%	29,457
2034	1,182,554	-	643	30,099	80,800	1,292,810	3,867,445	33.4%	27,579
2035	1,292,810	-	662	28,241	88,180	1,408,569	3,884,301	36.3%	25,718
2036	1,408,569	-	680	26,399	95,932	1,530,220	3,892,738	39.3%	23,890
2037	1,530,220	-	697	24,588	104,083	1,658,194	3,892,672	42.6%	22,112
2038	1,658,194	-	713	22,825	112,662	1,792,968	3,884,184	46.2%	20,376
2039	1,792,968	-	728	21,103	121,702	1,935,045	3,867,284	50.0%	18,690
2040	1,935,045	-	741	19,431	131,236	2,084,971	3,841,986	54.3%	17,062
2041	2,084,971	-	753	17,815	141,302	2,243,335	3,808,086	58.9%	15,498
2042	2,243,335	-	763	16,262	151,940	2,410,774	3,766,135	64.0%	13,979
2043	2,410,774	-	772	14,751	163,191	2,587,944	3,716,236	69.6%	12,494
2044	2,587,944	-	779	13,273	175,101	2,775,539	3,658,211	75.9%	11,063
2045	2,775,539	-	784	11,847	187,716	2,974,318	3,592,688	82.8%	9,689
2046	2,974,318	-	787	10,476	201,088	3,185,095	3,520,103	90.5%	8,384
2047	3,185,095	-	789	9,173	215,272	3,408,751	3,440,643	99.1%	7,153
2048	3,408,751	251,358	787	7,941	221,983	3,386,530	3,355,077	100.9%	6,013
2049	3,386,530	313,410	784	-	218,160	3,290,496	3,264,109	100.8%	4,980
2050	3,290,496	310,944	777	-	211,760	3,190,535	3,168,449	100.7%	4,054
2051	3,190,535	307,631	769	-	205,122	3,087,257	3,068,770	100.6%	3,238
2052	3,087,257	303,501	759	-	198,289	2,981,286	2,965,762	100.5%	2,533
2053	2,981,286	298,131	745	-	191,314	2,873,724	2,860,600	100.5%	1,941
2054	2,873,724	291,963	730	-	184,259	2,765,290	2,754,084	100.4%	1,455
2055	2,765,290	285,378	713	-	177,159	2,656,358	2,646,666	100.4%	1,068
2056	2,656,358	277,766	694	-	170,059	2,547,957	2,539,451	100.3%	772
2057	2,547,957	269,656	674	-	163,012	2,440,639	2,433,065	100.3%	549





**CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM**  
**DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S)**  
**BARGAINING UNIT NUMBER 12**  
**CRAFT AND MAINTENANCE**

<b>Present Value of Benefits</b>	<b>\$ 5,773,317</b>	<b>\$ 5,773,317</b>
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# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) BARGAINING UNIT NUMBER 12 CRAFT AND MAINTENANCE			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 167,689	\$ 146,732	\$ 129,311
Interest on Total OPEB Liability	154,036	172,744	162,948
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(362,455)	(97,510)
Changes of Assumptions	(433,966)	(166,573)	152,849
Benefit Payments	(110,860)	(114,235)	(120,833)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (223,101)</b>	<b>\$ (323,787)</b>	<b>\$ 226,765</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 4,540,951</b>	<b>\$ 4,317,850</b>	<b>\$ 3,994,063</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 4,317,850</b>	<b>\$ 3,994,063</b>	<b>\$ 4,220,828</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 110,860	\$ 114,235	\$ 120,833
Employer Pre-Funding Contributions	1,076	8,280	16,268
Active Member Contributions	1,076	8,280	16,268
Net Investment Income	872	1,051	3,552
Benefit Payments	(110,860)	(114,235)	(120,833)
Administrative Expense	(4)	(9)	(9)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ 3,020</b>	<b>\$ 17,602</b>	<b>\$ 36,079</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ 7,186</b>	<b>\$ 10,206</b>	<b>\$ 27,788</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 10,206</b>	<b>\$ 27,808</b>	<b>\$ 63,867</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 4,307,644</b>	<b>\$ 3,966,255</b>	<b>\$ 4,156,961</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.236%</b>	<b>0.696%</b>	<b>1.513%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 210,461</b>	<b>\$ 209,603</b>	<b>\$ 196,209</b>
<b>Employer Contribution</b>	<b>\$ 111,936</b>	<b>\$ 122,515</b>	<b>\$ 137,101</b>
<b>Percentage of ADC made by Employer</b>	<b>53%</b>	<b>58%</b>	<b>70%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (98,525)</b>	<b>\$ (87,088)</b>	<b>\$ (59,108)</b>
<b>Expected Return on Assets</b>	<b>\$ 600</b>	<b>\$ 1,335</b>	<b>\$ 3,064</b>
<b>Investment (Gain)/Loss</b>	<b>\$ (272)</b>	<b>\$ 284</b>	<b>\$ (488)</b>
<b>Average Expected Remaining Service</b>	<b>5.773655</b>	<b>6.134782</b>	<b>6.307925</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.310%</b>	<b>3.920%</b>	<b>4.010%</b>
<b>Blended Discount Rate End of Year</b>	<b>3.920%</b>	<b>4.010%</b>	<b>3.604%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>



## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S) BARGAINING UNIT NUMBER 12 CRAFT AND MAINTENANCE		
Measured for the Plan's Fiscal Year Ending	June 30, 2018	June 30, 2019
Applicable for the Sponsor's Fiscal Year Ending	June 30, 2019	June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 146,732	\$ 129,311
Interest on the Total OPEB Liability	172,744	162,948
Current-Period Benefit Changes	-	-
Active Member Contributions	(8,280)	(16,268)
Projected Earnings on Plan Investments	(1,335)	(3,064)
Operating Expenses	9	9
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(59,082)	(74,540)
Recognition of Outflow/(Inflow) due to Assumption Changes	(102,315)	(78,084)
Recognition of Outflow/(Inflow) due to Investment Experience	3	(95)
<b>Net OPEB Expense</b>	<b>\$ 148,476</b>	<b>\$ 120,217</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 4,307,644</b>	<b>\$ 3,966,275</b>
OPEB Expense	148,476	120,217
Employer Contributions	(122,514)	(137,101)
Change in Outflow/(Inflow) due to Non-investment Experience	(303,373)	(22,970)
Change in Outflow/(Inflow) due to Assumption Changes	(64,258)	230,933
Change in Outflow/(Inflow) due to Investment Experience	281	(393)
<b>Net OPEB Liability End of Year</b>	<b>\$ 3,966,256</b>	<b>\$ 4,156,961</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (303,373)	\$ (326,343)
Assumption Changes	\$ (423,061)	\$ (320,746)
Investment Experience	\$ (164)	\$ (500)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ -
Assumption Changes	\$ -	\$ 128,618
Investment Experience	\$ 227	\$ 170
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	4.010%	3.604%
Baseline Discount Rate and Trend Rates	\$ 3,966,255	\$ 4,156,961
Increase Discount Rate by One Percentage Point	\$ 3,426,534	\$ 3,584,831
Decrease Discount Rate by One Percentage Point	\$ 4,639,054	\$ 4,871,048
Increase Trend Rate by One Percentage Point	\$ 4,562,862	\$ 4,912,788
Decrease Trend Rate by One Percentage Point	\$ 3,492,470	\$ 3,559,767



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) BARGAINING UNIT NUMBER 12 CRAFT AND MAINTENANCE									
Valuation Date	6/30/2019								
Measurement Date	6/30/2019								
Plan Year Beginning	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
7/1/2016	\$ -	5.773655	\$ -	\$ (433,966)	5.773655	\$ (75,163)	\$ (272)	\$ 5.000000	\$ (54)
7/1/2017	\$ (362,455)	6.134782	\$ (59,082)	\$ (166,573)	6.134782	\$ (27,152)	\$ 284	5.000000	\$ 57
7/1/2018	\$ (97,510)	6.307925	\$ (15,458)	\$ 152,849	6.307925	\$ 24,231	\$ (488)	5.000000	\$ (98)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ -	\$ (74,540)	\$ (74,540)	\$ 24,231	\$ (102,315)	\$ (78,084)	\$ 57	\$ (152)	\$ (95)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ -	\$ (74,540)	\$ (74,540)	\$ 24,231	\$ (102,315)	\$ (78,084)	\$ 57	\$ (152)	\$ (95)
6/30/2021	\$ -	\$ (74,540)	\$ (74,540)	\$ 24,231	\$ (102,315)	\$ (78,084)	\$ 57	\$ (154)	\$ (97)
6/30/2022	\$ -	\$ (74,540)	\$ (74,540)	\$ 24,231	\$ (85,303)	\$ (61,072)	\$ 56	\$ (98)	\$ (42)
6/30/2023	\$ -	\$ (74,540)	\$ (74,540)	\$ 24,231	\$ (27,152)	\$ (2,921)	\$ -	\$ (96)	\$ (96)
6/30/2024	\$ -	\$ (23,421)	\$ (23,421)	\$ 24,231	\$ (3,661)	\$ 20,570	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ (4,762)	\$ (4,762)	\$ 7,463	\$ -	\$ 7,463	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ (326,343)	\$ (326,343)	\$ 128,618	\$ (320,746)	\$ (192,128)	\$ 170	\$ (500)	\$ (330)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ (22,970)			\$ 230,933			\$ (393)

## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>BARGAINING UNIT NUMBER 13</b> <b>STATIONARY ENGINEERS</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	958	975
Retired Participants <sup>a</sup>	<u>865</u>	<u>906</u>
Total Participants	1,823	1,881
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 133,333	\$ 133,692
Retired Participants	<u>168,256</u>	<u>181,782</u>
Total Participants	\$ 301,589	\$ 315,474
Actuarial Accrued Liability		
Active Participants	\$ 93,193	\$ 93,116
Retired Participants	<u>168,256</u>	<u>181,782</u>
Total Participants	\$ 261,449	\$ 274,898
Actuarial Value of Assets	\$ 1,556	\$ 5,437
Unfunded Actuarial Accrued Liability	\$ 259,893	\$ 269,461
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 5,428	\$ 5,409
Administrative Expenses	29	31
Amortization of UAAL	<u>14,933</u>	<u>15,790</u>
Total ADC	\$ 20,390	\$ 21,230
Estimated Member Contributions	<u>(1,364)</u>	<u>(2,040)</u>
Net Employer ADC	\$ 19,026	\$ 19,190
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 7,953	\$ 8,320
Part B Reimbursement	1,185	1,322
Dental Claims	<u>558</u>	<u>598</u>
Total	\$ 9,696	\$ 10,240
Employer Implicit Costs	<u>1,773</u>	<u>2,299</u>
Total Employer Costs	\$ 11,469	\$ 12,539
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 664	\$ 643
Dental Claims	<u>174</u>	<u>180</u>
Total	\$ 838	\$ 823
Total Claims Costs	\$ 12,307	\$ 13,362

<sup>a</sup>Retired participants with dental only coverage, 65 as of July 1, 2018, and 69 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
BARGAINING UNIT NUMBER 13  
STATIONARY ENGINEERS

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2047

FYE	Assets (boy)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ 1,555	\$ -	\$ 1	\$ 3,584	\$ 299	\$ 5,437	\$ 274,898	2.0%	\$ 5,409
2020	5,437	-	31	4,080	501	9,987	286,265	3.5%	5,108
2021	9,987	-	34	5,142	844	15,939	296,980	5.4%	4,809
2022	15,939	-	37	4,845	1,235	21,982	306,901	7.2%	4,512
2023	21,982	-	40	4,552	1,634	28,128	315,978	8.9%	4,221
2024	28,128	-	43	4,264	2,039	34,388	324,140	10.6%	3,933
2025	34,388	-	46	3,979	2,452	40,773	331,399	12.3%	3,648
2026	40,773	-	48	3,696	2,873	47,294	337,694	14.0%	3,367
2027	47,294	-	51	3,417	3,304	53,964	343,092	15.7%	3,095
2028	53,964	-	53	3,148	3,745	60,804	347,630	17.5%	2,840
2029	60,804	-	55	2,895	4,199	67,843	351,216	19.3%	2,599
2030	67,843	-	58	2,657	4,666	75,108	353,887	21.2%	2,373
2031	75,108	-	59	2,432	5,149	82,630	355,753	23.2%	2,167
2032	82,630	-	61	2,228	5,649	90,446	356,687	25.4%	1,975
2033	90,446	-	63	2,038	6,171	98,592	356,639	27.6%	1,787
2034	98,592	-	65	1,853	6,714	107,094	355,623	30.1%	1,610
2035	107,094	-	67	1,677	7,282	115,986	353,572	32.8%	1,443
2036	115,986	-	69	1,512	7,877	125,306	350,441	35.8%	1,286
2037	125,306	-	71	1,356	8,501	135,092	346,285	39.0%	1,142
2038	135,092	-	72	1,214	9,157	145,391	341,189	42.6%	1,009
2039	145,391	-	73	1,081	9,847	156,246	335,205	46.6%	884
2040	156,246	-	74	957	10,576	167,705	328,275	51.1%	766
2041	167,705	-	75	841	11,346	179,817	320,442	56.1%	660
2042	179,817	-	75	735	12,160	192,637	311,847	61.8%	564
2043	192,637	-	75	639	13,022	206,223	302,502	68.2%	478
2044	206,223	-	75	552	13,936	220,636	292,555	75.4%	400
2045	220,636	-	74	474	14,906	235,942	282,136	83.6%	330
2046	235,942	-	73	403	15,937	252,209	271,273	93.0%	267
2047	252,209	7,791	72	339	16,774	261,459	260,107	100.5%	213
2048	261,459	28,183	70	-	16,711	249,917	248,768	100.5%	166
2049	249,917	27,571	69	-	15,952	238,229	237,246	100.4%	127
2050	238,229	26,845	67	-	15,187	226,504	225,655	100.4%	96
2051	226,504	25,961	65	-	14,425	214,903	214,163	100.3%	72
2052	214,903	25,063	63	-	13,672	203,449	202,798	100.3%	53
2053	203,449	24,141	60	-	12,929	192,177	191,597	100.3%	39
2054	192,177	23,127	58	-	12,202	181,194	180,674	100.3%	28
2055	181,194	22,130	55	-	11,494	170,503	170,032	100.3%	20
2056	170,503	21,147	53	-	10,805	160,108	159,680	100.3%	14
2057	160,108	20,170	50	-	10,136	150,024	149,632	100.3%	9



## Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM								
DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S)								
BARGAINING UNIT NUMBER 13								
STATIONARY ENGINEERS								
20-Year GO Municipal Bond Rate at June 30, 2019			3.130%					
Long-Term Investment Return			6.750%					
Year Plan is Fully Funded			2047					
Single Equivalent Rate			3.516%					
Present Value of Benefits			\$ 535,306			\$ 535,306		
FYE	Net Employer Benefits		Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 12,539		3.130%	0.98471	\$ 12,348	3.516%	0.98287	\$ 12,325
2021	13,602		3.130%	0.95482	12,988	3.516%	0.94949	12,915
2022	14,761		3.130%	0.92584	13,666	3.516%	0.91724	13,539
2023	15,920		3.130%	0.89774	14,292	3.516%	0.88608	14,106
2024	17,097		3.130%	0.87050	14,883	3.516%	0.85598	14,635
2025	18,207		3.130%	0.84408	15,368	3.516%	0.82691	15,056
2026	19,320		3.130%	0.81846	15,813	3.516%	0.79882	15,433
2027	20,308		3.130%	0.79362	16,117	3.516%	0.77169	15,671
2028	21,213		3.130%	0.76953	16,324	3.516%	0.74548	15,814
2029	22,166		3.130%	0.74618	16,540	3.516%	0.72016	15,963
2030	23,038		3.130%	0.72353	16,669	3.516%	0.69570	16,027
2031	23,757		3.130%	0.70157	16,668	3.516%	0.67207	15,967
2032	24,569		3.130%	0.68028	16,714	3.516%	0.64924	15,951
2033	25,382		3.130%	0.65963	16,743	3.516%	0.62719	15,919
2034	26,122		3.130%	0.63961	16,708	3.516%	0.60588	15,827
2035	26,873		3.130%	0.62020	16,667	3.516%	0.58530	15,729
2036	27,612		3.130%	0.60138	16,605	3.516%	0.56542	15,613
2037	28,239		3.130%	0.58313	16,467	3.516%	0.54622	15,424
2038	28,727		3.130%	0.56543	16,243	3.516%	0.52767	15,158
2039	29,117		3.130%	0.54827	15,964	3.516%	0.50974	14,842
2040	29,513		3.130%	0.53163	15,690	3.516%	0.49243	14,533
2041	29,812		3.130%	0.51549	15,368	3.516%	0.47570	14,182
2042	29,929		3.130%	0.49985	14,960	3.516%	0.45955	13,754
2043	29,994		3.130%	0.48468	14,537	3.516%	0.44394	13,315
2044	29,877		3.130%	0.46997	14,041	3.516%	0.42886	12,813
2045	29,604		3.130%	0.45570	13,491	3.516%	0.41429	12,265
2046	29,282		3.130%	0.44187	12,939	3.516%	0.40022	11,719
2047	28,801		3.130%	0.42846	12,340	3.516%	0.38663	11,135
2048	28,183		6.750%	0.40137	11,312	3.516%	0.37349	10,526
2049	27,571		6.750%	0.37599	10,366	3.516%	0.36081	9,948
2050	26,845		6.750%	0.35222	9,455	3.516%	0.34855	9,357
2051	25,961		6.750%	0.32994	8,566	3.516%	0.33671	8,741
2052	25,063		6.750%	0.30908	7,746	3.516%	0.32528	8,152
2053	24,141		6.750%	0.28954	6,990	3.516%	0.31423	7,586
2054	23,127		6.750%	0.27123	6,273	3.516%	0.30355	7,020
2055	22,130		6.750%	0.25408	5,623	3.516%	0.29324	6,490
2056	21,147		6.750%	0.23801	5,033	3.516%	0.28328	5,991
2066	12,060		6.750%	0.12386	1,494	3.516%	0.20051	2,418
2076	5,293		6.750%	0.06445	341	3.516%	0.14193	751
2086	1,185		6.750%	0.03354	40	3.516%	0.10046	119
2096	80		6.750%	0.01745	1	3.516%	0.07111	6
2106	-		6.750%	0.00908	-	3.516%	0.05033	-
2116	-		6.750%	0.00473	-	3.516%	0.03563	-

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) BARGAINING UNIT NUMBER 13 STATIONARY ENGINEERS			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 14,669	\$ 12,821	\$ 11,434
Interest on Total OPEB Liability	14,564	16,406	15,722
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(27,555)	(3,013)
Changes of Assumptions	(44,093)	(15,965)	14,480
Benefit Payments	(10,675)	(10,863)	(10,957)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (25,535)</b>	<b>\$ (25,156)</b>	<b>\$ 27,666</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 447,182</b>	<b>\$ 421,647</b>	<b>\$ 396,491</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 421,647</b>	<b>\$ 396,491</b>	<b>\$ 424,157</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 10,675	\$ 10,863	\$ 10,957
Employer Pre-Funding Contributions	-	768	1,792
Active Member Contributions	-	768	1,792
Net Investment Income	-	21	299
Benefit Payments	(10,675)	(10,863)	(10,957)
Administrative Expense	-	(1)	(1)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ -</b>	<b>\$ 1,556</b>	<b>\$ 3,882</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,555</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ -</b>	<b>\$ 1,556</b>	<b>\$ 5,437</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 421,647</b>	<b>\$ 394,935</b>	<b>\$ 418,720</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.000%</b>	<b>0.392%</b>	<b>1.282%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 19,979</b>	<b>\$ 19,810</b>	<b>\$ 18,598</b>
<b>Employer Contribution</b>	<b>\$ 10,675</b>	<b>\$ 11,631</b>	<b>\$ 12,749</b>
<b>Percentage of ADC made by Employer</b>	<b>53%</b>	<b>59%</b>	<b>69%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (9,304)</b>	<b>\$ (8,179)</b>	<b>\$ (5,849)</b>
<b>Expected Return on Assets</b>	<b>\$ -</b>	<b>\$ 55</b>	<b>\$ 232</b>
<b>Investment (Gain)/Loss</b>	<b>\$ -</b>	<b>\$ 34</b>	<b>\$ (67)</b>
<b>Average Expected Remaining Service</b>	<b>4.408263</b>	<b>4.574619</b>	<b>4.587420</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.190%</b>	<b>3.825%</b>	<b>3.906%</b>
<b>Blended Discount Rate End of Year</b>	<b>3.825%</b>	<b>3.906%</b>	<b>3.516%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>



## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S) BARGAINING UNIT NUMBER 13 STATIONARY ENGINEERS		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 12,821	\$ 11,434
Interest on the Total OPEB Liability	16,406	15,722
Current-Period Benefit Changes	-	-
Active Member Contributions	(768)	(1,792)
Projected Earnings on Plan Investments	(55)	(232)
Operating Expenses	1	1
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(6,023)	(6,680)
Recognition of Outflow/(Inflow) due to Assumption Changes	(13,492)	(10,336)
Recognition of Outflow/(Inflow) due to Investment Experience	7	(6)
<b>Net OPEB Expense</b>	<b>\$ 8,897</b>	<b>\$ 8,111</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 421,647</b>	<b>\$ 394,936</b>
OPEB Expense	8,897	8,111
Employer Contributions	(11,631)	(12,749)
Change in Outflow/(Inflow) due to Non-investment Experience	(21,532)	3,667
Change in Outflow/(Inflow) due to Assumption Changes	(2,473)	24,816
Change in Outflow/(Inflow) due to Investment Experience	27	(61)
<b>Net OPEB Liability End of Year</b>	<b>\$ 394,935</b>	<b>\$ 418,720</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (21,532)	\$ (17,865)
Assumption Changes	\$ (36,564)	\$ (23,072)
Investment Experience	\$ -	\$ (54)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ -
Assumption Changes	\$ -	\$ 11,324
Investment Experience	\$ 27	\$ 20
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	3.906%	3.516%
Baseline Discount Rate and Trend Rates	\$ 394,935	\$ 418,720
Increase Discount Rate by One Percentage Point	\$ 341,623	\$ 361,599
Decrease Discount Rate by One Percentage Point	\$ 461,264	\$ 489,857
Increase Trend Rate by One Percentage Point	\$ 452,509	\$ 492,060
Decrease Trend Rate by One Percentage Point	\$ 348,676	\$ 360,052

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) BARGAINING UNIT NUMBER 13 STATIONARY ENGINEERS									
Valuation Date	6/30/2019								
Measurement Date	6/30/2019								
	Non-Investment Experience			Assumption Changes			Investment Experience		
Plan Year Beginning	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
7/1/2016	\$ -	4.408263	\$ -	\$ (44,093)	4.408263	\$ (10,002)	\$ -	\$ 5.000000	\$ -
7/1/2017	\$ (27,555)	4.574619	\$ (6,023)	\$ (15,965)	4.574619	\$ (3,490)	\$ 34	5.000000	\$ 7
7/1/2018	\$ (3,013)	4.587420	\$ (657)	\$ 14,480	4.587420	\$ 3,156	\$ (67)	5.000000	\$ (13)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ -	\$ (6,680)	\$ (6,680)	\$ 3,156	\$ (13,492)	\$ (10,336)	\$ 7	\$ (13)	\$ (6)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ -	\$ (6,680)	\$ (6,680)	\$ 3,156	\$ (13,492)	\$ (10,336)	\$ 7	\$ (13)	\$ (6)
6/30/2021	\$ -	\$ (6,680)	\$ (6,680)	\$ 3,156	\$ (7,575)	\$ (4,419)	\$ 7	\$ (13)	\$ (6)
6/30/2022	\$ -	\$ (4,120)	\$ (4,120)	\$ 3,156	\$ (2,005)	\$ 1,151	\$ 6	\$ (13)	\$ (7)
6/30/2023	\$ -	\$ (385)	\$ (385)	\$ 1,856	\$ -	\$ 1,856	\$ -	\$ (15)	\$ (15)
6/30/2024	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ (17,865)	\$ (17,865)	\$ 11,324	\$ (23,072)	\$ (11,748)	\$ 20	\$ (54)	\$ (34)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ 3,667			\$ 24,816			\$ (61)

## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>BARGAINING UNIT NUMBER 16</b> <b>PHYSICIANS, DENTISTS AND PODIATRISTS</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	1,598	1,621
Retired Participants <sup>a</sup>	<u>1,435</u>	<u>1,473</u>
Total Participants	3,033	3,094
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 204,930	\$ 206,348
Retired Participants	<u>218,669</u>	<u>240,837</u>
Total Participants	\$ 423,599	\$ 447,185
Actuarial Accrued Liability		
Active Participants	\$ 129,938	\$ 132,602
Retired Participants	<u>218,669</u>	<u>240,837</u>
Total Participants	\$ 348,607	\$ 373,439
Actuarial Value of Assets	\$ 14,232	\$ 26,676
Unfunded Actuarial Accrued Liability	\$ 334,375	\$ 346,763
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 10,709	\$ 10,528
Administrative Expenses	41	47
Amortization of UAAL	<u>19,212</u>	<u>20,320</u>
Total ADC	\$ 29,962	\$ 30,895
Estimated Member Contributions	<u>(4,032)</u>	<u>(5,287)</u>
Net Employer ADC	\$ 25,930	\$ 25,608
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 10,459	\$ 10,600
Part B Reimbursement	2,590	2,765
Dental Claims	<u>937</u>	<u>967</u>
Total	\$ 13,986	\$ 14,332
Employer Implicit Costs	<u>2,535</u>	<u>4,406</u>
Total Employer Costs	\$ 16,521	\$ 18,738
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 1,406	\$ 1,423
Dental Claims	<u>299</u>	<u>304</u>
Total	\$ 1,705	\$ 1,727
Total Claims Costs	\$ 18,226	\$ 20,465

<sup>a</sup>Retired participants with dental only coverage, 150 as of July 1, 2018, and 151 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
BARGAINING UNIT NUMBER 16  
PHYSICIANS, DENTISTS AND PODIATRISTS

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2041

FYE	Assets (boy)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ 14,222	\$ -	\$ 4	\$ 10,962	\$ 1,496	\$ 26,676	\$ 373,439	7.1%	\$ 10,528
2020	26,676	-	47	10,574	2,150	39,353	390,513	10.1%	9,776
2021	39,353	-	51	9,828	2,981	52,111	406,105	12.8%	9,136
2022	52,111	-	56	9,191	3,821	65,067	420,131	15.5%	8,503
2023	65,067	-	61	8,564	4,674	78,244	432,532	18.1%	7,892
2024	78,244	-	65	7,957	5,544	91,680	443,348	20.7%	7,305
2025	91,680	-	69	7,374	6,431	105,416	452,636	23.3%	6,744
2026	105,416	-	72	6,816	7,340	119,500	460,439	26.0%	6,197
2027	119,500	-	76	6,273	8,272	133,969	466,792	28.7%	5,657
2028	133,969	-	79	5,736	9,231	148,857	471,664	31.6%	5,134
2029	148,857	-	82	5,216	10,218	164,209	475,033	34.6%	4,633
2030	164,209	-	85	4,718	11,238	180,080	476,853	37.8%	4,154
2031	180,080	-	88	4,241	12,293	196,526	477,139	41.2%	3,704
2032	196,526	-	90	3,794	13,388	213,618	475,897	44.9%	3,284
2033	213,618	-	93	3,377	14,528	231,430	473,144	48.9%	2,886
2034	231,430	-	95	2,981	15,717	250,033	468,875	53.3%	2,512
2035	250,033	-	97	2,609	16,961	269,506	463,137	58.2%	2,165
2036	269,506	-	98	2,264	18,264	289,936	456,044	63.6%	1,850
2037	289,936	-	99	1,949	19,632	311,418	447,740	69.6%	1,564
2038	311,418	-	100	1,664	21,073	334,055	438,346	76.2%	1,310
2039	334,055	-	100	1,410	22,592	357,957	428,045	83.6%	1,088
2040	357,957	-	99	1,187	24,198	383,243	417,003	91.9%	895
2041	383,243	1,046	99	994	25,864	408,956	405,313	100.9%	730
2042	408,956	39,043	98	-	26,305	396,120	393,105	100.8%	589
2043	396,120	38,529	96	-	25,456	382,951	380,454	100.7%	469
2044	382,951	37,922	95	-	24,587	369,521	367,448	100.6%	368
2045	369,521	37,294	93	-	23,701	355,835	354,105	100.5%	284
2046	355,835	36,630	92	-	22,800	341,913	340,460	100.4%	215
2047	341,913	35,834	90	-	21,887	327,876	326,641	100.4%	158
2048	327,876	35,034	88	-	20,966	313,720	312,657	100.3%	113
2049	313,720	34,220	86	-	20,037	299,451	298,522	100.3%	79
2050	299,451	33,332	83	-	19,104	285,140	284,315	100.3%	53
2051	285,140	32,419	81	-	18,168	270,808	270,064	100.3%	35
2052	270,808	31,418	79	-	17,234	256,545	255,867	100.3%	22
2053	256,545	30,377	76	-	16,306	242,398	241,773	100.3%	13
2054	242,398	29,378	73	-	15,384	228,331	227,751	100.3%	8
2055	228,331	28,339	71	-	14,469	214,390	213,851	100.3%	5
2056	214,390	27,271	68	-	13,564	200,615	200,113	100.3%	3
2057	200,615	26,162	65	-	12,671	187,059	186,593	100.2%	2



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S) BARGAINING UNIT NUMBER 16 PHYSICIANS, DENTISTS AND PODIATRISTS							
20-Year GO Municipal Bond Rate at June 30, 2019		3.130%					
Long-Term Investment Return		6.750%					
Year Plan is Fully Funded		2041					
Single Equivalent Rate		3.772%					
Present Value of Benefits		\$ 706,051			\$ 706,051		
FYE	Net Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 18,738	3.130%	0.98471	\$ 18,452	3.772%	0.98166	\$ 18,395
2021	20,514	3.130%	0.95482	19,587	3.772%	0.94598	19,406
2022	22,384	3.130%	0.92584	20,724	3.772%	0.91160	20,405
2023	24,221	3.130%	0.89774	21,744	3.772%	0.87847	21,277
2024	25,933	3.130%	0.87050	22,575	3.772%	0.84654	21,953
2025	27,512	3.130%	0.84408	23,222	3.772%	0.81577	22,443
2026	28,976	3.130%	0.81846	23,715	3.772%	0.78612	22,778
2027	30,323	3.130%	0.79362	24,065	3.772%	0.75755	22,971
2028	31,615	3.130%	0.76953	24,329	3.772%	0.73001	23,079
2029	32,847	3.130%	0.74618	24,510	3.772%	0.70348	23,107
2030	34,049	3.130%	0.72353	24,635	3.772%	0.67791	23,082
2031	35,157	3.130%	0.70157	24,665	3.772%	0.65327	22,967
2032	36,190	3.130%	0.68028	24,619	3.772%	0.62953	22,783
2033	37,139	3.130%	0.65963	24,498	3.772%	0.60665	22,530
2034	38,015	3.130%	0.63961	24,315	3.772%	0.58460	22,223
2035	38,771	3.130%	0.62020	24,046	3.772%	0.56335	21,842
2036	39,350	3.130%	0.60138	23,664	3.772%	0.54288	21,362
2037	39,733	3.130%	0.58313	23,170	3.772%	0.52315	20,786
2038	39,952	3.130%	0.56543	22,590	3.772%	0.50413	20,141
2039	39,953	3.130%	0.54827	21,905	3.772%	0.48581	19,409
2040	39,768	3.130%	0.53163	21,142	3.772%	0.46815	18,618
2041	39,476	3.130%	0.51549	20,349	3.772%	0.45114	17,809
2042	39,043	6.750%	0.48290	18,854	3.772%	0.43474	16,973
2043	38,529	6.750%	0.45236	17,429	3.772%	0.41894	16,141
2044	37,922	6.750%	0.42376	16,070	3.772%	0.40371	15,310
2045	37,294	6.750%	0.39696	14,804	3.772%	0.38904	14,509
2046	36,630	6.750%	0.37186	13,621	3.772%	0.37490	13,732
2047	35,834	6.750%	0.34835	12,483	3.772%	0.36127	12,946
2048	35,034	6.750%	0.32632	11,433	3.772%	0.34814	12,197
2049	34,220	6.750%	0.30569	10,461	3.772%	0.33549	11,480
2050	33,332	6.750%	0.28636	9,545	3.772%	0.32330	10,776
2051	32,419	6.750%	0.26825	8,697	3.772%	0.31155	10,100
2052	31,418	6.750%	0.25129	7,895	3.772%	0.30022	9,432
2053	30,377	6.750%	0.23540	7,151	3.772%	0.28931	8,788
2054	29,378	6.750%	0.22052	6,478	3.772%	0.27880	8,191
2055	28,339	6.750%	0.20657	5,854	3.772%	0.26866	7,614
2056	27,271	6.750%	0.19351	5,277	3.772%	0.25890	7,060
2066	15,467	6.750%	0.10070	1,558	3.772%	0.17879	2,765
2076	4,770	6.750%	0.05240	250	3.772%	0.12347	589
2086	636	6.750%	0.02727	17	3.772%	0.08526	54
2096	58	6.750%	0.01419	1	3.772%	0.05888	3
2106	4	6.750%	0.00738	-	3.772%	0.04066	-
2116	-	6.750%	0.00384	-	3.772%	0.02808	-

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) BARGAINING UNIT NUMBER 16 PHYSICIANS, DENTISTS AND PODIATRISTS			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 25,410	\$ 22,878	\$ 19,868
Interest on Total OPEB Liability	19,529	22,062	20,854
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(43,849)	3,825
Changes of Assumptions	(45,549)	(17,270)	13,636
Benefit Payments	(15,948)	(18,647)	(18,674)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (16,558)</b>	<b>\$ (34,826)</b>	<b>\$ 39,509</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 547,898</b>	<b>\$ 531,340</b>	<b>\$ 496,514</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 531,340</b>	<b>\$ 496,514</b>	<b>\$ 536,023</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 15,948	\$ 18,647	\$ 18,674
Employer Pre-Funding Contributions	711	3,373	5,481
Active Member Contributions	711	3,373	5,481
Net Investment Income	591	645	1,496
Benefit Payments	(15,948)	(18,647)	(18,674)
Administrative Expense	(3)	(5)	(4)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ 2,010</b>	<b>\$ 7,386</b>	<b>\$ 12,454</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ 4,836</b>	<b>\$ 6,846</b>	<b>\$ 14,222</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 6,846</b>	<b>\$ 14,232</b>	<b>\$ 26,676</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 524,494</b>	<b>\$ 482,282</b>	<b>\$ 509,347</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>1.288%</b>	<b>2.866%</b>	<b>4.977%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 29,785</b>	<b>\$ 28,038</b>	<b>\$ 24,481</b>
<b>Employer Contribution</b>	<b>\$ 16,659</b>	<b>\$ 22,020</b>	<b>\$ 24,155</b>
<b>Percentage of ADC made by Employer</b>	<b>56%</b>	<b>79%</b>	<b>99%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (13,126)</b>	<b>\$ (6,018)</b>	<b>\$ (326)</b>
<b>Expected Return on Assets</b>	<b>\$ 403</b>	<b>\$ 739</b>	<b>\$ 1,373</b>
<b>Investment (Gain)/Loss</b>	<b>\$ (188)</b>	<b>\$ 94</b>	<b>\$ (123)</b>
<b>Average Expected Remaining Service</b>	<b>4.144907</b>	<b>4.131138</b>	<b>4.126132</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.454%</b>	<b>4.041%</b>	<b>4.112%</b>
<b>Blended Discount Rate End of Year</b>	<b>4.041%</b>	<b>4.112%</b>	<b>3.772%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>



## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S) BARGAINING UNIT NUMBER 16 PHYSICIANS, DENTISTS AND PODIATRISTS		
Measured for the Plan's Fiscal Year Ending	June 30, 2018	June 30, 2019
Applicable for the Sponsor's Fiscal Year Ending	June 30, 2019	June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 22,878	\$ 19,868
Interest on the Total OPEB Liability	22,062	20,854
Current-Period Benefit Changes	-	-
Active Member Contributions	(3,373)	(5,481)
Projected Earnings on Plan Investments	(739)	(1,373)
Operating Expenses	5	4
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(10,614)	(9,687)
Recognition of Outflow/(Inflow) due to Assumption Changes	(15,169)	(11,864)
Recognition of Outflow/(Inflow) due to Investment Experience	(19)	(44)
<b>Net OPEB Expense</b>	<b>\$ 15,031</b>	<b>\$ 12,277</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 524,494</b>	<b>\$ 482,292</b>
OPEB Expense	15,031	12,277
Employer Contributions	(22,020)	(24,155)
Change in Outflow/(Inflow) due to Non-investment Experience	(33,235)	13,512
Change in Outflow/(Inflow) due to Assumption Changes	(2,101)	25,500
Change in Outflow/(Inflow) due to Investment Experience	113	(79)
<b>Net OPEB Liability End of Year</b>	<b>\$ 482,282</b>	<b>\$ 509,347</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (33,235)	\$ (22,621)
Assumption Changes	\$ (36,661)	\$ (21,492)
Investment Experience	\$ (112)	\$ (172)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ 2,898
Assumption Changes	\$ -	\$ 10,331
Investment Experience	\$ 75	\$ 56
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	4.112%	3.772%
Baseline Discount Rate and Trend Rates	\$ 482,282	\$ 509,347
Increase Discount Rate by One Percentage Point	\$ 421,602	\$ 444,156
Decrease Discount Rate by One Percentage Point	\$ 556,680	\$ 589,306
Increase Trend Rate by One Percentage Point	\$ 548,460	\$ 592,667
Decrease Trend Rate by One Percentage Point	\$ 428,136	\$ 441,790



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) BARGAINING UNIT NUMBER 16 PHYSICIANS, DENTISTS AND PODIATRISTS									
Valuation Date	6/30/2019								
Measurement Date	6/30/2019								
	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
Plan Year Beginning									
7/1/2016	\$ -	4.144907	\$ -	\$ (45,549)	4.144907	\$ (10,989)	\$ (188)	\$ 5.000000	\$ (38)
7/1/2017	\$ (43,849)	4.131138	\$ (10,614)	\$ (17,270)	4.131138	\$ (4,180)	\$ 94	5.000000	\$ 19
7/1/2018	\$ 3,825	4.126132	\$ 927	\$ 13,636	4.126132	\$ 3,305	\$ (123)	5.000000	\$ (25)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ 927	\$ (10,614)	\$ (9,687)	\$ 3,305	\$ (15,169)	\$ (11,864)	\$ 19	\$ (63)	\$ (44)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ 927	\$ (10,614)	\$ (9,687)	\$ 3,305	\$ (15,169)	\$ (11,864)	\$ 19	\$ (63)	\$ (44)
6/30/2021	\$ 927	\$ (10,614)	\$ (9,687)	\$ 3,305	\$ (5,773)	\$ (2,468)	\$ 19	\$ (61)	\$ (42)
6/30/2022	\$ 927	\$ (1,393)	\$ (466)	\$ 3,305	\$ (550)	\$ 2,755	\$ 18	\$ (25)	\$ (7)
6/30/2023	\$ 117	\$ -	\$ 117	\$ 416	\$ -	\$ 416	\$ -	\$ (23)	\$ (23)
6/30/2024	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ 2,898	\$ (22,621)	\$ (19,723)	\$ 10,331	\$ (21,492)	\$ (11,161)	\$ 56	\$ (172)	\$ (116)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ 13,512			\$ 25,500			\$ (79)



## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>BARGAINING UNIT NUMBER 18</b> <b>PSYCHIATRIC TECHNICIANS</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	6,414	6,228
Retired Participants <sup>a</sup>	<u>4,852</u>	<u>4,979</u>
Total Participants	11,266	11,207
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 849,687	\$ 847,223
Retired Participants	<u>784,756</u>	<u>846,234</u>
Total Participants	\$ 1,634,443	\$ 1,693,457
Actuarial Accrued Liability		
Active Participants	\$ 502,416	\$ 503,474
Retired Participants	<u>784,756</u>	<u>846,234</u>
Total Participants	\$ 1,287,172	\$ 1,349,708
Actuarial Value of Assets	\$ 7,704	\$ 26,827
Unfunded Actuarial Accrued Liability	\$ 1,279,468	\$ 1,322,881
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 34,926	\$ 34,393
Administrative Expenses	132	142
Amortization of UAAL	<u>73,514</u>	<u>77,521</u>
Total ADC	\$ 108,572	\$ 112,056
Estimated Member Contributions	<u>(8,764)</u>	<u>(12,950)</u>
Net Employer ADC	\$ 99,808	\$ 99,106
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 37,798	\$ 39,286
Part B Reimbursement	5,790	6,231
Dental Claims	<u>2,623</u>	<u>2,759</u>
Total	\$ 46,211	\$ 48,276
Employer Implicit Costs	<u>6,479</u>	<u>8,566</u>
Total Employer Costs	\$ 52,690	\$ 56,842
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 2,400	\$ 2,632
Dental Claims	<u>799</u>	<u>822</u>
Total	\$ 3,199	\$ 3,454
Total Claims Costs	\$ 55,889	\$ 60,296

<sup>a</sup>Retired participants with dental only coverage, 283 as of July 1, 2018, and 292 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
BARGAINING UNIT NUMBER 18  
PSYCHIATRIC TECHNICIANS

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2048

FYE	Assets (boy)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ 7,698	\$ -	\$ 3	\$ 17,652	\$ 1,480	\$ 26,827	\$ 1,349,708	2.0%	\$ 34,393
2020	26,827	-	142	25,901	2,666	55,252	1,418,768	3.9%	33,530
2021	55,252	-	153	33,682	4,843	93,624	1,487,147	6.3%	32,697
2022	93,624	-	165	32,862	7,405	133,726	1,554,018	8.6%	31,867
2023	133,726	-	178	32,045	10,085	175,678	1,619,435	10.8%	31,033
2024	175,678	-	190	31,223	12,889	219,600	1,683,213	13.0%	30,200
2025	219,600	-	203	30,403	15,826	265,626	1,745,267	15.2%	29,362
2026	265,626	-	215	29,577	18,905	313,893	1,805,627	17.4%	28,514
2027	313,893	-	226	28,739	22,134	364,540	1,864,537	19.6%	27,661
2028	364,540	-	237	27,898	25,525	417,726	1,922,102	21.7%	26,796
2029	417,726	-	247	27,043	29,086	473,608	1,978,189	23.9%	25,912
2030	473,608	-	259	26,171	32,829	532,349	2,032,348	26.2%	25,002
2031	532,349	-	271	25,273	36,764	594,115	2,084,388	28.5%	24,060
2032	594,115	-	283	24,344	40,902	659,078	2,133,746	30.9%	23,081
2033	659,078	-	296	23,377	45,254	727,413	2,180,124	33.4%	22,050
2034	727,413	-	309	22,359	49,832	799,295	2,223,203	36.0%	20,955
2035	799,295	-	323	21,278	54,648	874,898	2,262,310	38.7%	19,806
2036	874,898	-	336	20,142	59,713	954,417	2,297,086	41.5%	18,612
2037	954,417	-	350	18,962	65,041	1,038,070	2,327,321	44.6%	17,378
2038	1,038,070	-	364	17,742	70,647	1,126,095	2,352,581	47.9%	16,115
2039	1,126,095	-	378	16,493	76,546	1,218,756	2,372,401	51.4%	14,841
2040	1,218,756	-	392	15,233	82,759	1,316,356	2,386,481	55.2%	13,550
2041	1,316,356	-	405	13,956	89,304	1,419,211	2,394,457	59.3%	12,248
2042	1,419,211	-	418	12,667	96,203	1,527,663	2,396,180	63.8%	10,949
2043	1,527,663	-	431	11,380	103,481	1,642,093	2,391,580	68.7%	9,660
2044	1,642,093	-	442	10,102	111,162	1,762,915	2,380,640	74.1%	8,419
2045	1,762,915	-	452	8,871	119,276	1,890,610	2,363,695	80.0%	7,235
2046	1,890,610	-	460	7,695	127,856	2,025,701	2,340,856	86.5%	6,110
2047	2,025,701	-	467	6,577	136,937	2,168,748	2,312,359	93.8%	5,067
2048	2,168,748	20,920	472	5,540	145,864	2,298,760	2,278,578	100.9%	4,124
2049	2,298,760	190,265	476	-	148,834	2,256,853	2,240,181	100.7%	3,297
2050	2,256,853	190,669	477	-	145,991	2,211,698	2,197,893	100.6%	2,584
2051	2,211,698	190,281	476	-	142,956	2,163,897	2,152,392	100.5%	1,986
2052	2,163,897	189,518	474	-	139,755	2,113,660	2,103,971	100.5%	1,498
2053	2,113,660	188,261	471	-	136,406	2,061,334	2,053,061	100.4%	1,109
2054	2,061,334	186,002	465	-	132,949	2,007,816	2,000,634	100.4%	804
2055	2,007,816	183,438	459	-	129,422	1,953,341	1,946,993	100.3%	571
2056	1,953,341	180,891	452	-	125,830	1,897,828	1,892,116	100.3%	397
2057	1,897,828	178,011	445	-	122,179	1,841,551	1,836,326	100.3%	270



## Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM							
DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S)							
BARGAINING UNIT NUMBER 18							
PSYCHIATRIC TECHNICIANS							
20-Year GO Municipal Bond Rate at June 30, 2019		3.130%					
Long-Term Investment Return		6.750%					
Year Plan is Fully Funded		2048					
Single Equivalent Rate		3.705%					
Present Value of Benefits		\$ 3,116,732			\$ 3,116,732		
FYE	Net Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 56,842	3.130%	0.98471	\$ 55,973	3.705%	0.98197	\$ 55,817
2021	61,120	3.130%	0.95482	58,359	3.705%	0.94689	57,874
2022	66,185	3.130%	0.92584	61,277	3.705%	0.91305	60,431
2023	71,103	3.130%	0.89774	63,832	3.705%	0.88043	62,601
2024	76,101	3.130%	0.87050	66,246	3.705%	0.84897	64,608
2025	81,075	3.130%	0.84408	68,434	3.705%	0.81864	66,371
2026	85,902	3.130%	0.81846	70,307	3.705%	0.78939	67,810
2027	90,372	3.130%	0.79362	71,721	3.705%	0.76118	68,789
2028	94,641	3.130%	0.76953	72,829	3.705%	0.73399	69,465
2029	98,940	3.130%	0.74618	73,827	3.705%	0.70776	70,026
2030	103,555	3.130%	0.72353	74,925	3.705%	0.68247	70,673
2031	108,204	3.130%	0.70157	75,913	3.705%	0.65809	71,208
2032	113,227	3.130%	0.68028	77,026	3.705%	0.63457	71,851
2033	118,324	3.130%	0.65963	78,050	3.705%	0.61190	72,402
2034	123,481	3.130%	0.63961	78,980	3.705%	0.59004	72,858
2035	129,009	3.130%	0.62020	80,012	3.705%	0.56895	73,400
2036	134,568	3.130%	0.60138	80,926	3.705%	0.54862	73,827
2037	140,004	3.130%	0.58313	81,640	3.705%	0.52902	74,065
2038	145,518	3.130%	0.56543	82,280	3.705%	0.51012	74,232
2039	151,129	3.130%	0.54827	82,859	3.705%	0.49189	74,339
2040	156,665	3.130%	0.53163	83,287	3.705%	0.47432	74,309
2041	162,161	3.130%	0.51549	83,593	3.705%	0.45737	74,168
2042	167,389	3.130%	0.49985	83,669	3.705%	0.44103	73,823
2043	172,280	3.130%	0.48468	83,500	3.705%	0.42527	73,266
2044	176,785	3.130%	0.46997	83,083	3.705%	0.41008	72,495
2045	180,603	3.130%	0.45570	82,301	3.705%	0.39542	71,415
2046	183,978	3.130%	0.44187	81,295	3.705%	0.38129	70,150
2047	186,800	3.130%	0.42846	80,037	3.705%	0.36767	68,681
2048	188,977	3.130%	0.41546	78,512	3.705%	0.35453	66,999
2049	190,265	6.750%	0.38919	74,049	3.705%	0.34187	65,045
2050	190,669	6.750%	0.36458	69,514	3.705%	0.32965	62,854
2051	190,281	6.750%	0.34153	64,986	3.705%	0.31787	60,485
2052	189,518	6.750%	0.31993	60,632	3.705%	0.30651	58,090
2053	188,261	6.750%	0.29970	56,422	3.705%	0.29556	55,643
2054	186,002	6.750%	0.28075	52,220	3.705%	0.28500	53,011
2055	183,438	6.750%	0.26300	48,244	3.705%	0.27482	50,412
2056	180,891	6.750%	0.24637	44,566	3.705%	0.26500	47,936
2066	155,796	6.750%	0.12821	19,974	3.705%	0.18417	28,694
2076	103,159	6.750%	0.06672	6,882	3.705%	0.12800	13,205
2086	33,370	6.750%	0.03472	1,159	3.705%	0.08896	2,969
2096	3,164	6.750%	0.01807	57	3.705%	0.06183	196
2106	84	6.750%	0.00940	1	3.705%	0.04297	4
2116	1	6.750%	0.00489	-	3.705%	0.02986	-

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) BARGAINING UNIT NUMBER 18 PSYCHIATRIC TECHNICIANS			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 90,257	\$ 78,668	\$ 75,099
Interest on Total OPEB Liability	76,899	85,613	82,679
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(191,777)	(57,811)
Changes of Assumptions	(222,349)	(40,755)	92,553
Benefit Payments	(49,553)	(43,073)	(60,499)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (104,746)</b>	<b>\$ (111,324)</b>	<b>\$ 132,021</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 2,197,374</b>	<b>\$ 2,092,628</b>	<b>\$ 1,981,304</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 2,092,628</b>	<b>\$ 1,981,304</b>	<b>\$ 2,113,325</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 49,553	\$ 43,073	\$ 60,499
Employer Pre-Funding Contributions	-	3,799	8,826
Active Member Contributions	-	3,799	8,826
Net Investment Income	-	108	1,480
Benefit Payments	(49,553)	(43,073)	(60,499)
Administrative Expense	-	(2)	(3)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ -</b>	<b>\$ 7,704</b>	<b>\$ 19,129</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 7,698</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ -</b>	<b>\$ 7,704</b>	<b>\$ 26,827</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 2,092,628</b>	<b>\$ 1,973,600</b>	<b>\$ 2,086,498</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.000%</b>	<b>0.389%</b>	<b>1.269%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 103,287</b>	<b>\$ 102,587</b>	<b>\$ 99,746</b>
<b>Employer Contribution</b>	<b>\$ 49,553</b>	<b>\$ 46,872</b>	<b>\$ 69,325</b>
<b>Percentage of ADC made by Employer</b>	<b>48%</b>	<b>46%</b>	<b>70%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (53,734)</b>	<b>\$ (55,715)</b>	<b>\$ (30,421)</b>
<b>Expected Return on Assets</b>	<b>\$ -</b>	<b>\$ 272</b>	<b>\$ 1,146</b>
<b>Investment (Gain)/Loss</b>	<b>\$ -</b>	<b>\$ 164</b>	<b>\$ (334)</b>
<b>Average Expected Remaining Service</b>	<b>6.796418</b>	<b>7.343741</b>	<b>7.212367</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.398%</b>	<b>3.991%</b>	<b>4.080%</b>
<b>Blended Discount Rate End of Year</b>	<b>3.991%</b>	<b>4.080%</b>	<b>3.705%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>



## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S) BARGAINING UNIT NUMBER 18 PSYCHIATRIC TECHNICIANS		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 78,668	\$ 75,099
Interest on the Total OPEB Liability	85,613	82,679
Current-Period Benefit Changes	-	-
Active Member Contributions	(3,799)	(8,826)
Projected Earnings on Plan Investments	(272)	(1,146)
Operating Expenses	2	3
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(26,114)	(34,130)
Recognition of Outflow/(Inflow) due to Assumption Changes	(38,266)	(25,433)
Recognition of Outflow/(Inflow) due to Investment Experience	33	(34)
<b>Net OPEB Expense</b>	<b>\$ 95,865</b>	<b>\$ 88,212</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 2,092,628</b>	<b>\$ 1,973,606</b>
OPEB Expense	95,865	88,212
Employer Contributions	(46,872)	(69,325)
Change in Outflow/(Inflow) due to Non-investment Experience	(165,663)	(23,681)
Change in Outflow/(Inflow) due to Assumption Changes	(2,489)	117,986
Change in Outflow/(Inflow) due to Investment Experience	131	(300)
<b>Net OPEB Liability End of Year</b>	<b>\$ 1,973,600</b>	<b>\$ 2,086,498</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (165,663)	\$ (189,344)
Assumption Changes	\$ (192,122)	\$ (153,856)
Investment Experience	\$ -	\$ (267)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ -
Assumption Changes	\$ -	\$ 79,720
Investment Experience	\$ 131	\$ 98
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	4.080%	3.705%
Baseline Discount Rate and Trend Rates	\$ 1,973,600	\$ 2,086,498
Increase Discount Rate by One Percentage Point	\$ 1,683,682	\$ 1,776,680
Decrease Discount Rate by One Percentage Point	\$ 2,341,245	\$ 2,479,902
Increase Trend Rate by One Percentage Point	\$ 2,314,191	\$ 2,520,036
Decrease Trend Rate by One Percentage Point	\$ 1,710,603	\$ 1,753,262



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) BARGAINING UNIT NUMBER 18 PSYCHIATRIC TECHNICIANS									
Valuation Date	6/30/2019								
Measurement Date	6/30/2019								
	Non-Investment Experience			Assumption Changes			Investment Experience		
Plan Year Beginning	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
7/1/2016	\$ -	6.796418	\$ -	\$ (222,349)	6.796418	\$ (32,716)	\$ -	\$ 5.000000	\$ -
7/1/2017	\$ (191,777)	7.343741	\$ (26,114)	\$ (40,755)	7.343741	\$ (5,550)	\$ 164	5.000000	\$ 33
7/1/2018	\$ (57,811)	7.212367	\$ (8,016)	\$ 92,553	7.212367	\$ 12,833	\$ (334)	5.000000	\$ (67)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ -	\$ (34,130)	\$ (34,130)	\$ 12,833	\$ (38,266)	\$ (25,433)	\$ 33	\$ (67)	\$ (34)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ -	\$ (34,130)	\$ (34,130)	\$ 12,833	\$ (38,266)	\$ (25,433)	\$ 33	\$ (67)	\$ (34)
6/30/2021	\$ -	\$ (34,130)	\$ (34,130)	\$ 12,833	\$ (38,266)	\$ (25,433)	\$ 33	\$ (67)	\$ (34)
6/30/2022	\$ -	\$ (34,130)	\$ (34,130)	\$ 12,833	\$ (38,266)	\$ (25,433)	\$ 32	\$ (67)	\$ (35)
6/30/2023	\$ -	\$ (34,130)	\$ (34,130)	\$ 12,833	\$ (31,603)	\$ (18,770)	\$ -	\$ (66)	\$ (66)
6/30/2024	\$ -	\$ (34,130)	\$ (34,130)	\$ 12,833	\$ (5,550)	\$ 7,283	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ (16,995)	\$ (16,995)	\$ 12,833	\$ (1,905)	\$ 10,928	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ (1,699)	\$ (1,699)	\$ 2,722	\$ -	\$ 2,722	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ (189,344)	\$ (189,344)	\$ 79,720	\$ (153,856)	\$ (74,136)	\$ 98	\$ (267)	\$ (169)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ (23,681)			\$ 117,986			\$ (300)

## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>BARGAINING UNIT NUMBER 19</b> <b>HEALTH AND SOCIAL SERVICES/PROFESSIONAL</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	5,791	5,744
Retired Participants <sup>a</sup>	<u>3,406</u>	<u>3,571</u>
Total Participants	9,197	9,315
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 703,866	\$ 704,843
Retired Participants	<u>531,815</u>	<u>587,931</u>
Total Participants	\$ 1,235,681	\$ 1,292,774
Actuarial Accrued Liability		
Active Participants	\$ 411,037	\$ 412,809
Retired Participants	<u>531,815</u>	<u>587,931</u>
Total Participants	\$ 942,852	\$ 1,000,740
Actuarial Value of Assets	\$ 8,737	\$ 29,723
Unfunded Actuarial Accrued Liability	\$ 934,115	\$ 971,017
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 31,743	\$ 31,247
Administrative Expenses	93	103
Amortization of UAAL	<u>53,671</u>	<u>56,902</u>
Total ADC	\$ 85,507	\$ 88,252
Estimated Member Contributions	<u>(7,959)</u>	<u>(11,756)</u>
Net Employer ADC	\$ 77,548	\$ 76,496
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 24,956	\$ 25,986
Part B Reimbursement	5,301	5,840
Dental Claims	<u>2,074</u>	<u>2,191</u>
Total	\$ 32,331	\$ 34,017
Employer Implicit Costs	<u>4,730</u>	<u>7,316</u>
Total Employer Costs	\$ 37,061	\$ 41,333
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 2,313	\$ 2,545
Dental Claims	<u>654</u>	<u>679</u>
Total	\$ 2,967	\$ 3,224
Total Claims Costs	\$ 40,028	\$ 44,557

<sup>a</sup>Retired participants with dental only coverage, 220 as of July 1, 2018, and 241 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
BARGAINING UNIT NUMBER 19  
HEALTH AND SOCIAL SERVICES/PROFESSIONAL

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2046

FYE	Assets (boy)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ 8,731	\$ -	\$ 4	\$ 19,360	\$ 1,636	\$ 29,723	\$ 1,000,740	3.0%	\$ 31,247
2020	29,723	-	103	23,513	2,783	55,916	1,058,918	5.3%	30,046
2021	55,916	-	113	30,160	4,772	90,735	1,115,636	8.1%	29,022
2022	90,735	-	124	29,146	7,088	126,845	1,170,578	10.8%	28,036
2023	126,845	-	135	28,171	9,493	164,374	1,223,546	13.4%	27,064
2024	164,374	-	146	27,210	11,994	203,432	1,274,459	16.0%	26,118
2025	203,432	-	158	26,276	14,599	244,149	1,323,238	18.5%	25,180
2026	244,149	-	168	25,348	17,316	286,645	1,370,047	20.9%	24,246
2027	286,645	-	178	24,424	20,153	331,044	1,414,840	23.4%	23,315
2028	331,044	-	188	23,503	23,119	377,478	1,457,598	25.9%	22,392
2029	377,478	-	197	22,589	26,223	426,093	1,498,283	28.4%	21,466
2030	426,093	-	207	21,673	29,474	477,033	1,536,581	31.0%	20,525
2031	477,033	-	218	20,742	32,881	530,438	1,572,223	33.7%	19,581
2032	530,438	-	228	19,809	36,455	586,474	1,605,056	36.5%	18,631
2033	586,474	-	238	18,869	40,206	645,311	1,634,895	39.5%	17,642
2034	645,311	-	249	17,890	44,144	707,096	1,661,328	42.6%	16,620
2035	707,096	-	259	16,879	48,281	771,997	1,684,059	45.8%	15,580
2036	771,997	-	270	15,850	52,627	840,204	1,702,841	49.3%	14,526
2037	840,204	-	280	14,805	57,196	911,925	1,717,583	53.1%	13,465
2038	911,925	-	290	13,755	62,002	987,392	1,728,183	57.1%	12,407
2039	987,392	-	299	12,705	67,061	1,066,859	1,734,592	61.5%	11,358
2040	1,066,859	-	307	11,665	72,390	1,150,607	1,736,965	66.2%	10,309
2041	1,150,607	-	315	10,624	78,008	1,238,924	1,735,188	71.4%	9,267
2042	1,238,924	-	322	9,590	83,935	1,332,127	1,728,995	77.0%	8,258
2043	1,332,127	-	329	8,587	90,193	1,430,578	1,718,709	83.2%	7,275
2044	1,430,578	-	333	7,609	96,806	1,534,660	1,704,675	90.0%	6,328
2045	1,534,660	-	338	6,667	103,800	1,644,789	1,686,694	97.5%	5,420
2046	1,644,789	72,965	342	5,763	108,781	1,686,026	1,664,770	101.3%	4,556
2047	1,686,026	138,276	346	-	109,205	1,656,609	1,639,124	101.1%	3,758
2048	1,656,609	138,966	347	-	107,196	1,624,492	1,610,185	100.9%	3,035
2049	1,624,492	139,328	348	-	105,016	1,589,832	1,578,147	100.7%	2,397
2050	1,589,832	139,134	348	-	102,683	1,553,033	1,543,467	100.6%	1,854
2051	1,553,033	138,359	346	-	100,225	1,514,553	1,506,668	100.5%	1,401
2052	1,514,553	137,298	343	-	97,663	1,474,575	1,468,000	100.4%	1,032
2053	1,474,575	135,671	339	-	95,018	1,433,583	1,428,008	100.4%	740
2054	1,433,583	133,993	335	-	92,307	1,391,562	1,386,740	100.3%	518
2055	1,391,562	132,299	331	-	89,527	1,348,459	1,344,202	100.3%	355
2056	1,348,459	130,096	325	-	86,691	1,304,729	1,300,895	100.3%	238
2057	1,304,729	127,819	320	-	83,815	1,260,405	1,256,893	100.3%	157





# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S) BARGAINING UNIT NUMBER 19 HEALTH AND SOCIAL SERVICES/PROFESSIONAL							
20-Year GO Municipal Bond Rate at June 30, 2019		3.130%					
Long-Term Investment Return		6.750%					
Year Plan is Fully Funded		2046					
Single Equivalent Rate		3.757%					
Present Value of Benefits		\$ 2,308,322			\$ 2,308,322		
FYE	Net Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 41,333	3.130%	0.98471	\$ 40,701	3.757%	0.98173	\$ 40,578
2021	45,307	3.130%	0.95482	43,260	3.757%	0.94618	42,869
2022	49,672	3.130%	0.92584	45,989	3.757%	0.91192	45,298
2023	54,152	3.130%	0.89774	48,615	3.757%	0.87891	47,595
2024	58,596	3.130%	0.87050	51,008	3.757%	0.84708	49,636
2025	63,011	3.130%	0.84408	53,186	3.757%	0.81641	51,443
2026	67,135	3.130%	0.81846	54,947	3.757%	0.78685	52,825
2027	71,179	3.130%	0.79362	56,489	3.757%	0.75836	53,979
2028	75,112	3.130%	0.76953	57,801	3.757%	0.73090	54,900
2029	78,958	3.130%	0.74618	58,917	3.757%	0.70444	55,621
2030	82,969	3.130%	0.72353	60,031	3.757%	0.67893	56,331
2031	87,070	3.130%	0.70157	61,086	3.757%	0.65435	56,975
2032	91,142	3.130%	0.68028	62,002	3.757%	0.63066	57,480
2033	95,204	3.130%	0.65963	62,800	3.757%	0.60783	57,867
2034	99,429	3.130%	0.63961	63,596	3.757%	0.58582	58,247
2035	103,681	3.130%	0.62020	64,303	3.757%	0.56461	58,539
2036	107,916	3.130%	0.60138	64,898	3.757%	0.54416	58,724
2037	111,964	3.130%	0.58313	65,289	3.757%	0.52446	58,721
2038	115,841	3.130%	0.56543	65,500	3.757%	0.50547	58,554
2039	119,496	3.130%	0.54827	65,515	3.757%	0.48717	58,215
2040	122,739	3.130%	0.53163	65,251	3.757%	0.46953	57,630
2041	125,829	3.130%	0.51549	64,864	3.757%	0.45253	56,941
2042	128,910	3.130%	0.49985	64,436	3.757%	0.43615	56,224
2043	131,425	3.130%	0.48468	63,699	3.757%	0.42035	55,245
2044	133,368	3.130%	0.46997	62,679	3.757%	0.40513	54,032
2045	135,294	3.130%	0.45570	61,654	3.757%	0.39046	52,827
2046	136,998	3.130%	0.44187	60,536	3.757%	0.37633	51,556
2047	138,276	6.750%	0.41393	57,237	3.757%	0.36270	50,153
2048	138,966	6.750%	0.38776	53,885	3.757%	0.34957	48,578
2049	139,328	6.750%	0.36324	50,609	3.757%	0.33691	46,941
2050	139,134	6.750%	0.34027	47,343	3.757%	0.32471	45,179
2051	138,359	6.750%	0.31876	44,103	3.757%	0.31296	43,300
2052	137,298	6.750%	0.29860	40,997	3.757%	0.30162	41,412
2053	135,671	6.750%	0.27972	37,950	3.757%	0.29070	39,440
2054	133,993	6.750%	0.26203	35,111	3.757%	0.28018	37,542
2055	132,299	6.750%	0.24546	32,475	3.757%	0.27003	35,725
2056	130,096	6.750%	0.22994	29,914	3.757%	0.26026	33,858
2066	108,123	6.750%	0.11966	12,938	3.757%	0.17999	19,461
2076	64,293	6.750%	0.06227	4,003	3.757%	0.12447	8,003
2086	17,172	6.750%	0.03240	556	3.757%	0.08608	1,478
2096	1,088	6.750%	0.01686	18	3.757%	0.05953	65
2106	38	6.750%	0.00877	-	3.757%	0.04117	2
2116	13	6.750%	0.00457	-	3.757%	0.02847	-

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) BARGAINING UNIT NUMBER 19 HEALTH AND SOCIAL SERVICES/PROFESSIONAL			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 78,546	\$ 69,599	\$ 63,722
Interest on Total OPEB Liability	55,156	62,178	59,961
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(128,625)	(23,634)
Changes of Assumptions	(141,348)	(44,590)	58,150
Benefit Payments	(34,938)	(37,371)	(42,720)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (42,584)</b>	<b>\$ (78,809)</b>	<b>\$ 115,479</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 1,520,526</b>	<b>\$ 1,477,942</b>	<b>\$ 1,399,133</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 1,477,942</b>	<b>\$ 1,399,133</b>	<b>\$ 1,514,612</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 34,938	\$ 37,371	\$ 42,720
Employer Pre-Funding Contributions	-	4,311	9,680
Active Member Contributions	-	4,311	9,680
Net Investment Income	-	117	1,636
Benefit Payments	(34,938)	(37,371)	(42,720)
Administrative Expense	-	(2)	(4)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ -</b>	<b>\$ 8,737</b>	<b>\$ 20,992</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 8,731</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ -</b>	<b>\$ 8,737</b>	<b>\$ 29,723</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 1,477,942</b>	<b>\$ 1,390,396</b>	<b>\$ 1,484,889</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.000%</b>	<b>0.624%</b>	<b>1.962%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 83,250</b>	<b>\$ 81,436</b>	<b>\$ 75,827</b>
<b>Employer Contribution</b>	<b>\$ 34,938</b>	<b>\$ 41,682</b>	<b>\$ 52,400</b>
<b>Percentage of ADC made by Employer</b>	<b>42%</b>	<b>51%</b>	<b>69%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (48,312)</b>	<b>\$ (39,754)</b>	<b>\$ (23,427)</b>
<b>Expected Return on Assets</b>	<b>\$ -</b>	<b>\$ 308</b>	<b>\$ 1,277</b>
<b>Investment (Gain)/Loss</b>	<b>\$ -</b>	<b>\$ 191</b>	<b>\$ (359)</b>
<b>Average Expected Remaining Service</b>	<b>6.796642</b>	<b>7.229237</b>	<b>7.182353</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.487%</b>	<b>4.066%</b>	<b>4.159%</b>
<b>Blended Discount Rate End of Year</b>	<b>4.066%</b>	<b>4.159%</b>	<b>3.757%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>

## Individual Actuarial Valuation Results

<b>GASB NOS. 74 AND 75 DISCLOSURES</b> <b>OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S)</b> <b>BARGAINING UNIT NUMBER 19</b> <b>HEALTH AND SOCIAL SERVICES/PROFESSIONAL</b>		
Measured for the Plan's Fiscal Year Ending	June 30, 2018	June 30, 2019
Applicable for the Sponsor's Fiscal Year Ending	June 30, 2019	June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 69,599	\$ 63,722
Interest on the Total OPEB Liability	62,178	59,961
Current-Period Benefit Changes	-	-
Active Member Contributions	(4,311)	(9,680)
Projected Earnings on Plan Investments	(308)	(1,277)
Operating Expenses	2	4
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(17,792)	(21,083)
Recognition of Outflow/(Inflow) due to Assumption Changes	(26,965)	(18,869)
Recognition of Outflow/(Inflow) due to Investment Experience	38	(34)
<b>Net OPEB Expense</b>	<b>\$ 82,441</b>	<b>\$ 72,744</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 1,477,942</b>	<b>\$ 1,390,402</b>
OPEB Expense	82,441	72,744
Employer Contributions	(41,682)	(52,400)
Change in Outflow/(Inflow) due to Non-investment Experience	(110,833)	(2,551)
Change in Outflow/(Inflow) due to Assumption Changes	(17,625)	77,019
Change in Outflow/(Inflow) due to Investment Experience	153	(325)
<b>Net OPEB Liability End of Year</b>	<b>\$ 1,390,396</b>	<b>\$ 1,484,889</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (110,833)	\$ (113,384)
Assumption Changes	\$ (138,176)	\$ (111,211)
Investment Experience	\$ -	\$ (287)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ -
Assumption Changes	\$ -	\$ 50,054
Investment Experience	\$ 153	\$ 115
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	4.159%	3.757%
Baseline Discount Rate and Trend Rates	\$ 1,390,396	\$ 1,484,889
Increase Discount Rate by One Percentage Point	\$ 1,198,395	\$ 1,276,565
Decrease Discount Rate by One Percentage Point	\$ 1,629,616	\$ 1,744,800
Increase Trend Rate by One Percentage Point	\$ 1,611,240	\$ 1,771,690
Decrease Trend Rate by One Percentage Point	\$ 1,216,561	\$ 1,260,452



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) BARGAINING UNIT NUMBER 19 HEALTH AND SOCIAL SERVICES/PROFESSIONAL									
Valuation Date		6/30/2019							
Measurement Date		6/30/2019							
	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
Plan Year Beginning									
7/1/2016	\$ -	6.796642	\$ -	\$ (141,348)	6.796642	\$ (20,797)	\$ -	5.000000	\$ -
7/1/2017	\$ (128,625)	7.229237	\$ (17,792)	\$ (44,590)	7.229237	\$ (6,168)	\$ 191	5.000000	\$ 38
7/1/2018	\$ (23,634)	7.182353	\$ (3,291)	\$ 58,150	7.182353	\$ 8,096	\$ (359)	5.000000	\$ (72)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ -	\$ (21,083)	\$ (21,083)	\$ 8,096	\$ (26,965)	\$ (18,869)	\$ 38	\$ (72)	\$ (34)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ -	\$ (21,083)	\$ (21,083)	\$ 8,096	\$ (26,965)	\$ (18,869)	\$ 38	\$ (72)	\$ (34)
6/30/2021	\$ -	\$ (21,083)	\$ (21,083)	\$ 8,096	\$ (26,965)	\$ (18,869)	\$ 38	\$ (72)	\$ (34)
6/30/2022	\$ -	\$ (21,083)	\$ (21,083)	\$ 8,096	\$ (26,965)	\$ (18,869)	\$ 39	\$ (72)	\$ (33)
6/30/2023	\$ -	\$ (21,083)	\$ (21,083)	\$ 8,096	\$ (22,734)	\$ (14,638)	\$ -	\$ (71)	\$ (71)
6/30/2024	\$ -	\$ (21,083)	\$ (21,083)	\$ 8,096	\$ (6,168)	\$ 1,928	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ (7,372)	\$ (7,372)	\$ 8,096	\$ (1,414)	\$ 6,682	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ (597)	\$ (597)	\$ 1,478	\$ -	\$ 1,478	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ (113,384)	\$ (113,384)	\$ 50,054	\$ (111,211)	\$ (61,157)	\$ 115	\$ (287)	\$ (172)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ (2,551)			\$ 77,019			\$ (325)

## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>CALIFORNIA STATE UNIVERSITY</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	47,995	49,249
Retired Participants <sup>a</sup>	<u>30,757</u>	<u>31,483</u>
Total Participants	78,752	80,732
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 5,772,262	\$ 5,844,100
Retired Participants	<u>4,906,913</u>	<u>5,414,274</u>
Total Participants	\$ 10,679,175	\$ 11,258,374
Actuarial Accrued Liability		
Active Participants	\$ 3,380,581	\$ 3,444,530
Retired Participants	<u>4,906,913</u>	<u>5,414,274</u>
Total Participants	\$ 8,287,494	\$ 8,858,804
Actuarial Value of Assets	\$ -	\$ -
Unfunded Actuarial Accrued Liability	\$ 8,287,494	\$ 8,858,804
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 266,569	\$ 266,289
Administrative Expenses	906	1,011
Amortization of UAAL	<u>476,173</u>	<u>519,126</u>
Total ADC	\$ 743,648	\$ 786,426
Estimated Member Contributions	-	-
Net Employer ADC	\$ 743,648	\$ 786,426
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 236,415	\$ 245,394
Part B Reimbursement	58,584	63,358
Dental Claims	<u>16,937</u>	<u>17,822</u>
Total	\$ 311,936	\$ 326,574
Employer Implicit Costs	<u>50,324</u>	<u>77,815</u>
Total Employer Costs	\$ 362,260	\$ 404,389
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 11,208	\$ 8,237
Dental Claims	-	-
Total	\$ 11,208	\$ 8,237
Total Claims Costs	\$ 373,468	\$ 412,626

<sup>a</sup>Retired participants with dental only coverage, 1,607 as of July 1, 2018, and 1,654 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
CALIFORNIA STATE UNIVERSITY

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded N/A

FYE	Assets (bo)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eo)	Accrued Liability (eo)	Funded Ratio	Normal Cost
2019	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,858,804	0.0%	\$ 266,289
2020	-	-	-	-	-	-	9,323,014	0.0%	254,707
2021	-	-	-	-	-	-	9,770,253	0.0%	244,966
2022	-	-	-	-	-	-	10,197,216	0.0%	235,333
2023	-	-	-	-	-	-	10,602,785	0.0%	225,737
2024	-	-	-	-	-	-	10,986,041	0.0%	216,203
2025	-	-	-	-	-	-	11,346,743	0.0%	206,772
2026	-	-	-	-	-	-	11,685,932	0.0%	197,612
2027	-	-	-	-	-	-	12,005,969	0.0%	188,584
2028	-	-	-	-	-	-	12,307,730	0.0%	179,661
2029	-	-	-	-	-	-	12,589,770	0.0%	170,927
2030	-	-	-	-	-	-	12,850,388	0.0%	162,432
2031	-	-	-	-	-	-	13,088,467	0.0%	153,967
2032	-	-	-	-	-	-	13,302,132	0.0%	145,485
2033	-	-	-	-	-	-	13,489,705	0.0%	137,093
2034	-	-	-	-	-	-	13,650,705	0.0%	128,793
2035	-	-	-	-	-	-	13,784,537	0.0%	120,535
2036	-	-	-	-	-	-	13,890,452	0.0%	112,331
2037	-	-	-	-	-	-	13,968,453	0.0%	104,258
2038	-	-	-	-	-	-	14,018,640	0.0%	96,371
2039	-	-	-	-	-	-	14,040,435	0.0%	88,694
2040	-	-	-	-	-	-	14,033,571	0.0%	81,196
2041	-	-	-	-	-	-	13,997,939	0.0%	73,859
2042	-	-	-	-	-	-	13,933,383	0.0%	66,682
2043	-	-	-	-	-	-	13,839,467	0.0%	59,656
2044	-	-	-	-	-	-	13,716,198	0.0%	52,802
2045	-	-	-	-	-	-	13,564,017	0.0%	46,187
2046	-	-	-	-	-	-	13,383,334	0.0%	39,876
2047	-	-	-	-	-	-	13,175,003	0.0%	33,918
2048	-	-	-	-	-	-	12,939,621	0.0%	28,386
2049	-	-	-	-	-	-	12,678,750	0.0%	23,357
2050	-	-	-	-	-	-	12,393,919	0.0%	18,873
2051	-	-	-	-	-	-	12,087,372	0.0%	14,951
2052	-	-	-	-	-	-	11,761,851	0.0%	11,589
2053	-	-	-	-	-	-	11,419,014	0.0%	8,773
2054	-	-	-	-	-	-	11,061,700	0.0%	6,479
2055	-	-	-	-	-	-	10,693,448	0.0%	4,668
2056	-	-	-	-	-	-	10,316,634	0.0%	3,296
2057	-	-	-	-	-	-	9,933,217	0.0%	2,293

# Individual Actuarial Valuation Results

## CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S) CALIFORNIA STATE UNIVERSITY

20-Year GO Municipal Bond Rate at June 30, 2019 3.130%  
Long-Term Investment Return 6.750%  
Year Plan is Fully Funded N/A  
Single Equivalent Rate 3.130%

Present Value of Benefits \$ 22,574,036 \$ 22,574,036

FYE	Net Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 404,389	3.130%	0.98471	\$ 398,205	3.130%	0.98471	\$ 398,205
2021	439,162	3.130%	0.95482	419,321	3.130%	0.95482	419,321
2022	477,939	3.130%	0.92584	442,497	3.130%	0.92584	442,497
2023	516,577	3.130%	0.89774	463,754	3.130%	0.89774	463,754
2024	554,745	3.130%	0.87050	482,904	3.130%	0.87050	482,904
2025	591,771	3.130%	0.84408	499,501	3.130%	0.84408	499,501
2026	626,402	3.130%	0.81846	512,685	3.130%	0.81846	512,685
2027	657,631	3.130%	0.79362	521,909	3.130%	0.79362	521,909
2028	686,903	3.130%	0.76953	528,595	3.130%	0.76953	528,595
2029	716,488	3.130%	0.74618	534,627	3.130%	0.74618	534,627
2030	746,624	3.130%	0.72353	540,206	3.130%	0.72353	540,206
2031	776,690	3.130%	0.70157	544,904	3.130%	0.70157	544,904
2032	807,129	3.130%	0.68028	549,073	3.130%	0.68028	549,073
2033	837,581	3.130%	0.65963	552,496	3.130%	0.65963	552,496
2034	866,890	3.130%	0.63961	554,474	3.130%	0.63961	554,474
2035	895,122	3.130%	0.62020	555,155	3.130%	0.62020	555,155
2036	922,372	3.130%	0.60138	554,694	3.130%	0.60138	554,694
2037	947,828	3.130%	0.58313	552,703	3.130%	0.58313	552,703
2038	971,514	3.130%	0.56543	549,321	3.130%	0.56543	549,321
2039	994,131	3.130%	0.54827	545,049	3.130%	0.54827	545,049
2040	1,015,367	3.130%	0.53163	539,797	3.130%	0.53163	539,797
2041	1,035,027	3.130%	0.51549	533,548	3.130%	0.51549	533,548
2042	1,053,126	3.130%	0.49985	526,402	3.130%	0.49985	526,402
2043	1,069,915	3.130%	0.48468	518,563	3.130%	0.48468	518,563
2044	1,084,946	3.130%	0.46997	509,888	3.130%	0.46997	509,888
2045	1,097,801	3.130%	0.45570	500,271	3.130%	0.45570	500,271
2046	1,108,621	3.130%	0.44187	489,869	3.130%	0.44187	489,869
2047	1,117,069	3.130%	0.42846	478,621	3.130%	0.42846	478,621
2048	1,123,493	3.130%	0.41546	466,764	3.130%	0.41546	466,764
2049	1,127,081	3.130%	0.40285	454,043	3.130%	0.40285	454,043
2050	1,128,041	3.130%	0.39062	440,638	3.130%	0.39062	440,638
2051	1,125,828	3.130%	0.37877	426,426	3.130%	0.37877	426,426
2052	1,120,123	3.130%	0.36727	411,389	3.130%	0.36727	411,389
2053	1,112,149	3.130%	0.35612	396,063	3.130%	0.35612	396,063
2054	1,100,860	3.130%	0.34532	380,145	3.130%	0.34532	380,145
2055	1,085,742	3.130%	0.33484	363,545	3.130%	0.33484	363,545
2056	1,068,105	3.130%	0.32467	346,785	3.130%	0.32467	346,785
2066	840,958	3.130%	0.23856	200,619	3.130%	0.23856	200,619
2076	494,684	3.130%	0.17529	86,711	3.130%	0.17529	86,711
2086	147,091	3.130%	0.12879	18,944	3.130%	0.12879	18,944
2096	12,165	3.130%	0.09463	1,151	3.130%	0.09463	1,151
2106	140	3.130%	0.06953	10	3.130%	0.06953	10
2116	1	3.130%	0.05109	-	3.130%	0.05109	-



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) CALIFORNIA STATE UNIVERSITY			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 795,696	\$ 680,934	\$ 603,049
Interest on Total OPEB Liability	436,431	513,512	490,260
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(1,111,239)	(94,145)
Changes of Assumptions	(1,663,194)	(519,714)	751,688
Benefit Payments	(333,828)	(353,022)	(381,303)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (764,895)</b>	<b>\$ (789,529)</b>	<b>\$ 1,369,549</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 14,683,420</b>	<b>\$ 13,918,525</b>	<b>\$ 13,128,996</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 13,918,525</b>	<b>\$ 13,128,996</b>	<b>\$ 14,498,545</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 333,828	\$ 353,022	\$ 381,303
Employer Pre-Funding Contributions	-	-	-
Active Member Contributions	-	-	-
Net Investment Income	-	-	-
Benefit Payments	(333,828)	(353,022)	(381,303)
Administrative Expense	-	-	-
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 13,918,525</b>	<b>\$ 13,128,996</b>	<b>\$ 14,498,545</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.000%</b>	<b>0.000%</b>	<b>0.000%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 732,573</b>	<b>\$ 754,550</b>	<b>\$ 743,648</b>
<b>Employer Contribution</b>	<b>\$ 333,828</b>	<b>\$ 353,022</b>	<b>\$ 381,303</b>
<b>Percentage of ADC made by Employer</b>	<b>46%</b>	<b>47%</b>	<b>51%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (398,745)</b>	<b>\$ (401,528)</b>	<b>\$ (362,345)</b>
<b>Expected Return on Assets</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Investment (Gain)/Loss</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Average Expected Remaining Service</b>	<b>6.864209</b>	<b>7.170774</b>	<b>7.253473</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>2.850%</b>	<b>3.560%</b>	<b>3.620%</b>
<b>Blended Discount Rate End of Year</b>	<b>3.560%</b>	<b>3.620%</b>	<b>3.130%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>





## Individual Actuarial Valuation Results

<b>GASB NOS. 74 AND 75 DISCLOSURES</b> <b>OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S)</b> <b>CALIFORNIA STATE UNIVERSITY</b>		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 680,934	\$ 603,049
Interest on the Total OPEB Liability	513,512	490,260
Current-Period Benefit Changes	-	-
Active Member Contributions	-	-
Projected Earnings on Plan Investments	-	-
Operating Expenses	-	-
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(154,968)	(167,947)
Recognition of Outflow/(Inflow) due to Assumption Changes	(314,776)	(211,145)
Recognition of Outflow/(Inflow) due to Investment Experience	-	-
<b>Net OPEB Expense</b>	<b>\$ 724,702</b>	<b>\$ 714,217</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 13,918,525</b>	<b>\$ 13,128,996</b>
OPEB Expense	724,702	714,217
Employer Contributions	(353,022)	(381,303)
Change in Outflow/(Inflow) due to Non-investment Experience	(956,271)	73,802
Change in Outflow/(Inflow) due to Assumption Changes	(204,938)	962,833
Change in Outflow/(Inflow) due to Investment Experience	-	-
<b>Net OPEB Liability End of Year</b>	<b>\$ 13,128,996</b>	<b>\$ 14,498,545</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (956,271)	\$ (882,469)
Assumption Changes	\$ (1,625,833)	\$ (1,311,057)
Investment Experience	\$ -	\$ -
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ -
Assumption Changes	\$ -	\$ 648,057
Investment Experience	\$ -	\$ -
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	3.620%	3.130%
Baseline Discount Rate and Trend Rates	\$ 13,128,996	\$ 14,498,545
Increase Discount Rate by One Percentage Point	\$ 11,329,989	\$ 12,495,949
Decrease Discount Rate by One Percentage Point	\$ 15,372,355	\$ 17,001,133
Increase Trend Rate by One Percentage Point	\$ 15,171,779	\$ 17,249,934
Decrease Trend Rate by One Percentage Point	\$ 11,525,389	\$ 12,349,046



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) CALIFORNIA STATE UNIVERSITY									
Valuation Date		6/30/2019							
Measurement Date		6/30/2019							
	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
Plan Year Beginning									
7/1/2016	\$ -	6.864209	\$ -	\$ (1,663,194)	6.864209	\$ (242,299)	\$ -	\$ 5.000000	\$ -
7/1/2017	\$ (1,111,239)	7.170774	\$ (154,968)	\$ (519,714)	7.170774	\$ (72,477)	\$ -	5.000000	\$ -
7/1/2018	\$ (94,145)	7.253473	\$ (12,979)	\$ 751,688	7.253473	\$ 103,631	\$ -	5.000000	\$ -
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ -	\$ (167,947)	\$ (167,947)	\$ 103,631	\$ (314,776)	\$ (211,145)	\$ -	\$ -	\$ -
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ -	\$ (167,947)	\$ (167,947)	\$ 103,631	\$ (314,776)	\$ (211,145)	\$ -	\$ -	\$ -
6/30/2021	\$ -	\$ (167,947)	\$ (167,947)	\$ 103,631	\$ (314,776)	\$ (211,145)	\$ -	\$ -	\$ -
6/30/2022	\$ -	\$ (167,947)	\$ (167,947)	\$ 103,631	\$ (314,776)	\$ (211,145)	\$ -	\$ -	\$ -
6/30/2023	\$ -	\$ (167,947)	\$ (167,947)	\$ 103,631	\$ (281,877)	\$ (178,246)	\$ -	\$ -	\$ -
6/30/2024	\$ -	\$ (167,947)	\$ (167,947)	\$ 103,631	\$ (72,477)	\$ 31,154	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ (39,442)	\$ (39,442)	\$ 103,631	\$ (12,375)	\$ 91,256	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ (3,292)	\$ (3,292)	\$ 26,271	\$ -	\$ 26,271	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ (882,469)	\$ (882,469)	\$ 648,057	\$ (1,311,057)	\$ (663,000)	\$ -	\$ -	\$ -
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ 73,802			\$ 962,833			\$ -

## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>JUDICIAL BRANCH</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	1,609	1,617
Retired Participants <sup>a</sup>	<u>937</u>	<u>1,019</u>
Total Participants	2,546	2,636
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 211,714	\$ 209,147
Retired Participants	<u>167,801</u>	<u>196,969</u>
Total Participants	\$ 379,515	\$ 406,116
Actuarial Accrued Liability		
Active Participants	\$ 141,167	\$ 136,439
Retired Participants	<u>167,801</u>	<u>196,969</u>
Total Participants	\$ 308,968	\$ 333,408
Actuarial Value of Assets	\$ 11,178	\$ 20,165
Unfunded Actuarial Accrued Liability	\$ 297,790	\$ 313,243
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 8,042	\$ 8,101
Administrative Expenses	29	33
Amortization of UAAL	<u>17,110</u>	<u>18,356</u>
Total ADC	\$ 25,181	\$ 26,490
Estimated Member Contributions	<u>(4,035)</u>	<u>(4,067)</u>
Net Employer ADC	\$ 21,146	\$ 22,423
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 7,715	\$ 8,517
Part B Reimbursement	1,646	1,903
Dental Claims	<u>607</u>	<u>670</u>
Total	\$ 9,968	\$ 11,090
Employer Implicit Costs	<u>1,446</u>	<u>2,291</u>
Total Employer Costs	\$ 11,414	\$ 13,381
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 656	\$ 650
Dental Claims	<u>193</u>	<u>208</u>
Total	\$ 849	\$ 858
Total Claims Costs	\$ 12,263	\$ 14,239

<sup>a</sup>Retired participants with dental only coverage, 42 as of July 1, 2018, and 46 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
JUDICIAL BRANCH

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2045

FYE	Assets (boy)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ 11,170	\$ -	\$ 3	\$ 7,868	\$ 1,130	\$ 20,165	\$ 333,408	6.0%	\$ 8,101
2020	20,165	-	33	8,134	1,630	29,896	350,727	8.5%	7,785
2021	29,896	-	37	7,822	2,276	39,957	367,541	10.9%	7,489
2022	39,957	-	40	7,529	2,946	50,392	383,625	13.1%	7,196
2023	50,392	-	44	7,240	3,640	61,228	398,899	15.3%	6,909
2024	61,228	-	48	6,957	4,362	72,499	413,287	17.5%	6,623
2025	72,499	-	52	6,675	5,114	84,236	426,888	19.7%	6,342
2026	84,236	-	55	6,398	5,897	96,476	439,572	21.9%	6,062
2027	96,476	-	59	6,121	6,713	109,251	451,423	24.2%	5,774
2028	109,251	-	62	5,836	7,566	122,591	462,509	26.5%	5,490
2029	122,591	-	65	5,555	8,457	136,538	472,694	28.9%	5,212
2030	136,538	-	69	5,280	9,389	151,138	481,770	31.4%	4,934
2031	151,138	-	72	5,007	10,366	166,439	489,670	34.0%	4,659
2032	166,439	-	76	4,735	11,389	182,487	496,352	36.8%	4,383
2033	182,487	-	79	4,462	12,463	199,333	501,857	39.7%	4,106
2034	199,333	-	82	4,188	13,591	217,030	506,131	42.9%	3,839
2035	217,030	-	86	3,924	14,777	235,645	508,994	46.3%	3,579
2036	235,645	-	89	3,668	16,025	255,249	510,577	50.0%	3,323
2037	255,249	-	91	3,414	17,340	275,912	510,956	54.0%	3,066
2038	275,912	-	94	3,160	18,726	297,704	510,014	58.4%	2,812
2039	297,704	-	96	2,908	20,188	320,704	507,723	63.2%	2,566
2040	320,704	-	98	2,664	21,733	345,003	504,136	68.4%	2,330
2041	345,003	-	100	2,430	23,365	370,698	499,320	74.2%	2,098
2042	370,698	-	101	2,199	25,092	397,888	493,346	80.7%	1,870
2043	397,888	-	103	1,973	26,919	426,677	486,184	87.8%	1,652
2044	426,677	-	104	1,756	28,855	457,184	477,888	95.7%	1,445
2045	457,184	13,953	104	1,550	30,444	475,121	468,570	101.4%	1,252
2046	475,121	41,812	105	-	30,679	463,883	458,329	101.2%	1,075
2047	463,883	41,703	104	-	29,924	452,000	447,321	101.0%	912
2048	452,000	41,463	104	-	29,130	439,563	435,643	100.9%	761
2049	439,563	41,318	103	-	28,295	426,437	423,167	100.8%	623
2050	426,437	41,036	103	-	27,418	412,716	409,993	100.7%	500
2051	412,716	40,538	101	-	26,509	398,586	396,314	100.6%	393
2052	398,586	39,986	100	-	25,574	384,074	382,167	100.5%	303
2053	384,074	39,327	98	-	24,616	369,265	367,651	100.4%	229
2054	369,265	38,529	96	-	23,643	354,283	352,901	100.4%	169
2055	354,283	37,663	94	-	22,660	339,186	337,987	100.4%	122
2056	339,186	36,750	92	-	21,672	324,016	322,960	100.3%	86
2057	324,016	35,784	89	-	20,680	308,823	307,878	100.3%	60



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S) JUDICIAL BRANCH							
20-Year GO Municipal Bond Rate at June 30, 2019		3.130%					
Long-Term Investment Return		6.750%					
Year Plan is Fully Funded		2045					
Single Equivalent Rate		3.724%					
Present Value of Benefits		\$ 705,454		\$ 705,454			
FYE	Net Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 13,381	3.130%	0.98471	\$ 13,177	3.724%	0.98189	\$ 13,140
2021	14,676	3.130%	0.95482	14,013	3.724%	0.94663	13,893
2022	16,174	3.130%	0.92584	14,975	3.724%	0.91265	14,761
2023	17,708	3.130%	0.89774	15,897	3.724%	0.87988	15,581
2024	19,265	3.130%	0.87050	16,770	3.724%	0.84830	16,342
2025	20,671	3.130%	0.84408	17,448	3.724%	0.81784	16,906
2026	22,158	3.130%	0.81846	18,135	3.724%	0.78848	17,471
2027	23,503	3.130%	0.79362	18,653	3.724%	0.76017	17,867
2028	24,719	3.130%	0.76953	19,022	3.724%	0.73288	18,116
2029	26,023	3.130%	0.74618	19,418	3.724%	0.70657	18,387
2030	27,474	3.130%	0.72353	19,878	3.724%	0.68120	18,715
2031	28,918	3.130%	0.70157	20,288	3.724%	0.65675	18,992
2032	30,328	3.130%	0.68028	20,631	3.724%	0.63317	19,203
2033	31,618	3.130%	0.65963	20,856	3.724%	0.61044	19,301
2034	32,884	3.130%	0.63961	21,033	3.724%	0.58852	19,353
2035	34,252	3.130%	0.62020	21,243	3.724%	0.56739	19,434
2036	35,410	3.130%	0.60138	21,295	3.724%	0.54702	19,370
2037	36,414	3.130%	0.58313	21,234	3.724%	0.52739	19,204
2038	37,452	3.130%	0.56543	21,177	3.724%	0.50845	19,043
2039	38,434	3.130%	0.54827	21,072	3.724%	0.49020	18,840
2040	39,285	3.130%	0.53163	20,885	3.724%	0.47260	18,566
2041	39,996	3.130%	0.51549	20,618	3.724%	0.45563	18,224
2042	40,563	3.130%	0.49985	20,275	3.724%	0.43927	17,818
2043	41,088	3.130%	0.48468	19,914	3.724%	0.42350	17,401
2044	41,493	3.130%	0.46997	19,500	3.724%	0.40830	16,942
2045	41,726	3.130%	0.45570	19,015	3.724%	0.39364	16,425
2046	41,812	6.750%	0.42689	17,849	3.724%	0.37951	15,868
2047	41,703	6.750%	0.39990	16,677	3.724%	0.36588	15,258
2048	41,463	6.750%	0.37461	15,533	3.724%	0.35275	14,626
2049	41,318	6.750%	0.35092	14,499	3.724%	0.34009	14,052
2050	41,036	6.750%	0.32873	13,490	3.724%	0.32788	13,455
2051	40,538	6.750%	0.30795	12,483	3.724%	0.31610	12,814
2052	39,986	6.750%	0.28847	11,535	3.724%	0.30476	12,186
2053	39,327	6.750%	0.27023	10,627	3.724%	0.29382	11,555
2054	38,529	6.750%	0.25315	9,753	3.724%	0.28327	10,914
2055	37,663	6.750%	0.23714	8,931	3.724%	0.27310	10,286
2056	36,750	6.750%	0.22214	8,164	3.724%	0.26329	9,676
2066	25,880	6.750%	0.11560	2,992	3.724%	0.18266	4,727
2076	13,115	6.750%	0.06016	789	3.724%	0.12673	1,662
2086	3,337	6.750%	0.03130	104	3.724%	0.08792	293
2096	224	6.750%	0.01629	4	3.724%	0.06100	14
2106	1	6.750%	0.00848	-	3.724%	0.04232	-
2116	-	6.750%	0.00441	-	3.724%	0.02936	-

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) JUDICIAL BRANCH			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 21,728	\$ 19,162	\$ 16,635
Interest on Total OPEB Liability	18,121	20,340	19,448
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(36,336)	623
Changes of Assumptions	(47,721)	(21,827)	18,913
Benefit Payments	(10,339)	(9,362)	(11,534)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (18,211)</b>	<b>\$ (28,023)</b>	<b>\$ 44,085</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 507,578</b>	<b>\$ 489,367</b>	<b>\$ 461,344</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 489,367</b>	<b>\$ 461,344</b>	<b>\$ 505,429</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 10,339	\$ 9,362	\$ 11,534
Employer Pre-Funding Contributions	1,612	3,689	3,934
Active Member Contributions	1,612	3,689	3,934
Net Investment Income	160	421	1,130
Benefit Payments	(10,339)	(9,362)	(11,534)
Administrative Expense	(1)	(4)	(3)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ 3,383</b>	<b>\$ 7,795</b>	<b>\$ 8,995</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ 3,383</b>	<b>\$ 11,170</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 3,383</b>	<b>\$ 11,178</b>	<b>\$ 20,165</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 485,984</b>	<b>\$ 450,166</b>	<b>\$ 485,264</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.691%</b>	<b>2.423%</b>	<b>3.990%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 23,621</b>	<b>\$ 22,301</b>	<b>\$ 21,247</b>
<b>Employer Contribution</b>	<b>\$ 11,951</b>	<b>\$ 13,051</b>	<b>\$ 15,468</b>
<b>Percentage of ADC made by Employer</b>	<b>51%</b>	<b>59%</b>	<b>73%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (11,670)</b>	<b>\$ (9,250)</b>	<b>\$ (5,779)</b>
<b>Expected Return on Assets</b>	<b>\$ 115</b>	<b>\$ 510</b>	<b>\$ 1,053</b>
<b>Investment (Gain)/Loss</b>	<b>\$ (45)</b>	<b>\$ 89</b>	<b>\$ (77)</b>
<b>Average Expected Remaining Service</b>	<b>6.606982</b>	<b>6.745952</b>	<b>6.724931</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.457%</b>	<b>4.043%</b>	<b>4.118%</b>
<b>Blended Discount Rate End of Year</b>	<b>4.043%</b>	<b>4.118%</b>	<b>3.724%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>

## Individual Actuarial Valuation Results

<b>GASB NOS. 74 AND 75 DISCLOSURES</b> <b>OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S)</b> <b>JUDICIAL BRANCH</b>		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 19,162	\$ 16,635
Interest on the Total OPEB Liability	20,340	19,448
Current-Period Benefit Changes	-	-
Active Member Contributions	(3,689)	(3,934)
Projected Earnings on Plan Investments	(510)	(1,053)
Operating Expenses	4	3
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(5,386)	(5,293)
Recognition of Outflow/(Inflow) due to Assumption Changes	(10,459)	(7,647)
Recognition of Outflow/(Inflow) due to Investment Experience	9	(6)
<b>Net OPEB Expense</b>	<b>\$ 19,471</b>	<b>\$ 18,153</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 485,984</b>	<b>\$ 450,174</b>
OPEB Expense	19,471	18,153
Employer Contributions	(13,051)	(15,468)
Change in Outflow/(Inflow) due to Non-investment Experience	(30,950)	5,916
Change in Outflow/(Inflow) due to Assumption Changes	(11,368)	26,560
Change in Outflow/(Inflow) due to Investment Experience	80	(71)
<b>Net OPEB Liability End of Year</b>	<b>\$ 450,166</b>	<b>\$ 485,264</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (30,950)	\$ (25,564)
Assumption Changes	\$ (51,866)	\$ (41,407)
Investment Experience	\$ (27)	\$ (80)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ 530
Assumption Changes	\$ -	\$ 16,101
Investment Experience	\$ 71	\$ 53
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	4.118%	3.724%
Baseline Discount Rate and Trend Rates	\$ 450,166	\$ 485,264
Increase Discount Rate by One Percentage Point	\$ 386,866	\$ 416,305
Decrease Discount Rate by One Percentage Point	\$ 528,735	\$ 570,891
Increase Trend Rate by One Percentage Point	\$ 520,246	\$ 577,212
Decrease Trend Rate by One Percentage Point	\$ 394,343	\$ 412,349



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) JUDICIAL BRANCH									
Valuation Date		6/30/2019							
Measurement Date		6/30/2019							
	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
Plan Year Beginning									
7/1/2016	\$ -	6.606982	\$ -	\$ (47,721)	6.606982	\$ (7,223)	\$ (45)	\$ 5.000000	\$ (9)
7/1/2017	\$ (36,336)	6.745952	\$ (5,386)	\$ (21,827)	6.745952	\$ (3,236)	\$ 89	5.000000	\$ 18
7/1/2018	\$ 623	6.724931	\$ 93	\$ 18,913	6.724931	\$ 2,812	\$ (77)	5.000000	\$ (15)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ 93	\$ (5,386)	\$ (5,293)	\$ 2,812	\$ (10,459)	\$ (7,647)	\$ 18	\$ (24)	\$ (6)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ 93	\$ (5,386)	\$ (5,293)	\$ 2,812	\$ (10,459)	\$ (7,647)	\$ 18	\$ (24)	\$ (6)
6/30/2021	\$ 93	\$ (5,386)	\$ (5,293)	\$ 2,812	\$ (10,459)	\$ (7,647)	\$ 18	\$ (24)	\$ (6)
6/30/2022	\$ 93	\$ (5,386)	\$ (5,293)	\$ 2,812	\$ (10,459)	\$ (7,647)	\$ 17	\$ (15)	\$ 2
6/30/2023	\$ 93	\$ (5,386)	\$ (5,293)	\$ 2,812	\$ (7,619)	\$ (4,807)	\$ -	\$ (17)	\$ (17)
6/30/2024	\$ 93	\$ (4,020)	\$ (3,927)	\$ 2,812	\$ (2,411)	\$ 401	\$ -	\$ -	\$ -
6/30/2025	\$ 65	\$ -	\$ 65	\$ 2,041	\$ -	\$ 2,041	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ 530	\$ (25,564)	\$ (25,034)	\$ 16,101	\$ (41,407)	\$ (25,306)	\$ 53	\$ (80)	\$ (27)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ 5,916			\$ 26,560			\$ (71)



## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>EXEMPT/EXCLUDED/EXECUTIVE</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	6,643	6,926
Retired Participants <sup>a</sup>	<u>4,122</u>	<u>4,262</u>
Total Participants	10,765	11,188
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 742,274	\$ 771,098
Retired Participants	<u>718,880</u>	<u>791,878</u>
Total Participants	\$ 1,461,154	\$ 1,562,976
Actuarial Accrued Liability		
Active Participants	\$ 501,781	\$ 518,577
Retired Participants	<u>718,880</u>	<u>791,878</u>
Total Participants	\$ 1,220,661	\$ 1,310,455
Actuarial Value of Assets	\$ -	\$ 6,855
Unfunded Actuarial Accrued Liability	\$ 1,220,661	\$ 1,303,600
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 25,785	\$ 26,855
Administrative Expenses	126	139
Amortization of UAAL	<u>70,135</u>	<u>76,391</u>
Total ADC	\$ 96,046	\$ 103,385
Estimated Member Contributions	-	(6,749)
Net Employer ADC	\$ 96,046	\$ 96,636
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 34,405	\$ 36,152
Part B Reimbursement	6,890	7,560
Dental Claims	<u>2,640</u>	<u>2,804</u>
Total	\$ 43,935	\$ 46,516
Employer Implicit Costs	<u>6,391</u>	<u>9,245</u>
Total Employer Costs	\$ 50,326	\$ 55,761
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 2,376	\$ 2,739
Dental Claims	<u>838</u>	<u>869</u>
Total	\$ 3,214	\$ 3,608
Total Claims Costs	\$ 53,540	\$ 59,369

<sup>a</sup>Retired participants with dental only coverage, 274 as of July 1, 2018, and 297 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

## CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S) EXEMPT/EXCLUDED/EXECUTIVE

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2050

FYE	Assets (boy)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ -	\$ -	\$ 1	\$ 6,486	\$ 370	\$ 6,855	\$ 1,310,455	0.5%	\$ 26,855
2020	6,855	-	139	13,497	906	21,119	1,369,935	1.5%	25,873
2021	21,119	-	152	19,519	2,068	42,554	1,427,254	3.0%	24,996
2022	42,554	-	166	25,162	3,702	71,252	1,481,731	4.8%	24,147
2023	71,252	-	179	24,326	5,611	101,010	1,533,507	6.6%	23,299
2024	101,010	-	193	23,492	7,592	131,901	1,582,273	8.3%	22,430
2025	131,901	-	206	22,636	9,648	163,979	1,627,948	10.1%	21,543
2026	163,979	-	218	21,762	11,784	197,307	1,670,672	11.8%	20,669
2027	197,307	-	229	20,898	14,004	231,980	1,710,899	13.6%	19,820
2028	231,980	-	239	20,059	16,317	268,117	1,748,664	15.3%	18,984
2029	268,117	-	249	19,234	18,728	305,830	1,783,941	17.1%	18,154
2030	305,830	-	260	18,413	21,246	345,229	1,816,387	19.0%	17,336
2031	345,229	-	270	17,606	23,878	386,443	1,845,728	20.9%	16,526
2032	386,443	-	281	16,807	26,634	429,603	1,871,724	23.0%	15,715
2033	429,603	-	292	16,007	29,520	474,838	1,894,116	25.1%	14,903
2034	474,838	-	302	15,205	32,546	522,287	1,912,917	27.3%	14,099
2035	522,287	-	312	14,410	35,722	572,107	1,928,218	29.7%	13,307
2036	572,107	-	321	13,628	39,059	624,473	1,939,898	32.2%	12,514
2037	624,473	-	329	12,843	42,567	679,554	1,948,044	34.9%	11,718
2038	679,554	-	337	12,055	46,259	737,531	1,952,658	37.8%	10,923
2039	737,531	-	345	11,268	50,146	798,600	1,953,610	40.9%	10,136
2040	798,600	-	352	10,488	54,242	862,978	1,950,626	44.2%	9,350
2041	862,978	-	360	9,710	58,561	930,889	1,943,584	47.9%	8,569
2042	930,889	-	366	8,935	63,120	1,002,578	1,932,542	51.9%	7,803
2043	1,002,578	-	373	8,175	67,933	1,078,313	1,917,257	56.2%	7,048
2044	1,078,313	-	378	7,426	73,020	1,158,381	1,897,879	61.0%	6,315
2045	1,158,381	-	382	6,697	78,400	1,243,096	1,874,697	66.3%	5,610
2046	1,243,096	-	386	5,997	84,095	1,332,802	1,847,544	72.1%	4,943
2047	1,332,802	-	389	5,332	90,128	1,427,873	1,816,751	78.6%	4,321
2048	1,427,873	-	390	4,710	96,525	1,528,718	1,782,975	85.7%	3,737
2049	1,528,718	-	390	4,127	103,313	1,635,768	1,746,264	93.7%	3,195
2050	1,635,768	27,092	389	3,585	109,621	1,721,493	1,706,664	100.9%	2,699
2051	1,721,493	154,936	387	-	111,044	1,677,214	1,664,650	100.8%	2,249
2052	1,677,214	153,697	384	-	108,097	1,631,230	1,620,602	100.7%	1,845
2053	1,631,230	152,299	381	-	105,039	1,583,589	1,574,595	100.6%	1,486
2054	1,583,589	150,823	377	-	101,873	1,534,262	1,526,626	100.5%	1,174
2055	1,534,262	149,038	373	-	98,603	1,483,454	1,476,932	100.4%	909
2056	1,483,454	146,901	367	-	95,244	1,431,430	1,425,809	100.4%	686
2057	1,431,430	144,587	361	-	91,810	1,378,292	1,373,389	100.4%	506

# Individual Actuarial Valuation Results

## CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S) EXEMPT/EXCLUDED/EXECUTIVE

20-Year GO Municipal Bond Rate at June 30, 2019 3.130%  
Long-Term Investment Return 6.750%  
Year Plan is Fully Funded 2050  
Single Equivalent Rate 3.568%

Present Value of Benefits \$ 2,840,175 \$ 2,840,175

FYE	Net Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 55,761	3.130%	0.98471	\$ 54,908	3.568%	0.98263	\$ 54,792
2021	60,726	3.130%	0.95482	57,982	3.568%	0.94878	57,615
2022	66,312	3.130%	0.92584	61,395	3.568%	0.91609	60,748
2023	71,608	3.130%	0.89774	64,286	3.568%	0.88454	63,340
2024	77,026	3.130%	0.87050	67,051	3.568%	0.85406	65,785
2025	82,306	3.130%	0.84408	69,472	3.568%	0.82464	67,873
2026	87,230	3.130%	0.81846	71,394	3.568%	0.79624	69,456
2027	91,533	3.130%	0.79362	72,642	3.568%	0.76881	70,371
2028	95,667	3.130%	0.76953	73,619	3.568%	0.74232	71,016
2029	99,680	3.130%	0.74618	74,379	3.568%	0.71675	71,446
2030	103,867	3.130%	0.72353	75,151	3.568%	0.69206	71,882
2031	108,144	3.130%	0.70157	75,871	3.568%	0.66822	72,264
2032	112,464	3.130%	0.68028	76,507	3.568%	0.64520	72,562
2033	116,812	3.130%	0.65963	77,053	3.568%	0.62298	72,771
2034	120,913	3.130%	0.63961	77,337	3.568%	0.60152	72,731
2035	124,696	3.130%	0.62020	77,337	3.568%	0.58080	72,423
2036	128,383	3.130%	0.60138	77,207	3.568%	0.56079	71,996
2037	131,749	3.130%	0.58313	76,826	3.568%	0.54147	71,338
2038	134,877	3.130%	0.56543	76,263	3.568%	0.52282	70,516
2039	137,903	3.130%	0.54827	75,608	3.568%	0.50481	69,615
2040	140,962	3.130%	0.53163	74,939	3.568%	0.48742	68,707
2041	143,885	3.130%	0.51549	74,171	3.568%	0.47063	67,716
2042	146,489	3.130%	0.49985	73,222	3.568%	0.45442	66,567
2043	149,085	3.130%	0.48468	72,258	3.568%	0.43876	65,413
2044	151,268	3.130%	0.46997	71,091	3.568%	0.42365	64,084
2045	152,928	3.130%	0.45570	69,690	3.568%	0.40905	62,556
2046	154,531	3.130%	0.44187	68,283	3.568%	0.39496	61,034
2047	155,592	3.130%	0.42846	66,665	3.568%	0.38136	59,336
2048	155,826	3.130%	0.41546	64,739	3.568%	0.36822	57,378
2049	155,859	3.130%	0.40285	62,788	3.568%	0.35554	55,414
2050	155,699	3.130%	0.39062	60,819	3.568%	0.34329	53,450
2051	154,936	6.750%	0.36592	56,695	3.568%	0.33146	51,356
2052	153,697	6.750%	0.34278	52,685	3.568%	0.32005	49,190
2053	152,299	6.750%	0.32111	48,905	3.568%	0.30902	47,064
2054	150,823	6.750%	0.30081	45,368	3.568%	0.29838	45,002
2055	149,038	6.750%	0.28178	41,997	3.568%	0.28810	42,937
2056	146,901	6.750%	0.26397	38,777	3.568%	0.27817	40,864
2066	114,329	6.750%	0.13736	15,705	3.568%	0.19592	22,399
2076	69,191	6.750%	0.07148	4,946	3.568%	0.13798	9,547
2086	23,638	6.750%	0.03720	879	3.568%	0.09718	2,297
2096	2,940	6.750%	0.01936	57	3.568%	0.06845	201
2106	48	6.750%	0.01007	-	3.568%	0.04821	2
2116	-	6.750%	0.00524	-	3.568%	0.03395	-



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) EXEMPT/EXCLUDED/EXECUTIVE			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 85,390	\$ 71,649	\$ 64,676
Interest on Total OPEB Liability	65,881	76,114	72,985
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(147,520)	24,633
Changes of Assumptions	(262,923)	(67,124)	(38,227)
Benefit Payments	(46,707)	(47,009)	(51,792)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (158,359)</b>	<b>\$ (113,890)</b>	<b>\$ 72,275</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 2,249,404</b>	<b>\$ 2,091,045</b>	<b>\$ 1,977,155</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 2,091,045</b>	<b>\$ 1,977,155</b>	<b>\$ 2,049,430</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 46,707	\$ 47,009	\$ 51,792
Employer Pre-Funding Contributions	-	-	3,243
Active Member Contributions	-	-	3,243
Net Investment Income	-	-	370
Benefit Payments	(46,707)	(47,009)	(51,792)
Administrative Expense	-	-	(1)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 6,855</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 6,855</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 2,091,045</b>	<b>\$ 1,977,155</b>	<b>\$ 2,042,575</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.000%</b>	<b>0.000%</b>	<b>0.334%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 93,212</b>	<b>\$ 96,008</b>	<b>\$ 92,803</b>
<b>Employer Contribution</b>	<b>\$ 46,707</b>	<b>\$ 47,009</b>	<b>\$ 55,035</b>
<b>Percentage of ADC made by Employer</b>	<b>50%</b>	<b>49%</b>	<b>59%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (46,505)</b>	<b>\$ (48,999)</b>	<b>\$ (37,768)</b>
<b>Expected Return on Assets</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 223</b>
<b>Investment (Gain)/Loss</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ (147)</b>
<b>Average Expected Remaining Service</b>	<b>6.958847</b>	<b>7.188319</b>	<b>7.271707</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>2.850%</b>	<b>3.560%</b>	<b>3.620%</b>
<b>Blended Discount Rate End of Year</b>	<b>3.560%</b>	<b>3.620%</b>	<b>3.568%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>



## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S) EXEMPT/EXCLUDED/EXECUTIVE		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 71,649	\$ 64,676
Interest on the Total OPEB Liability	76,114	72,985
Current-Period Benefit Changes	-	-
Active Member Contributions	-	(3,243)
Projected Earnings on Plan Investments	-	(223)
Operating Expenses	-	1
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(20,522)	(17,134)
Recognition of Outflow/(Inflow) due to Assumption Changes	(47,121)	(52,378)
Recognition of Outflow/(Inflow) due to Investment Experience	-	(29)
<b>Net OPEB Expense</b>	<b>\$ 80,120</b>	<b>\$ 64,655</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 2,091,045</b>	<b>\$ 1,977,155</b>
OPEB Expense	80,120	64,655
Employer Contributions	(47,009)	(55,035)
Change in Outflow/(Inflow) due to Non-investment Experience	(126,998)	41,767
Change in Outflow/(Inflow) due to Assumption Changes	(20,003)	14,151
Change in Outflow/(Inflow) due to Investment Experience	-	(118)
<b>Net OPEB Liability End of Year</b>	<b>\$ 1,977,155</b>	<b>\$ 2,042,575</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (126,998)	\$ (106,476)
Assumption Changes	\$ (245,143)	\$ (230,992)
Investment Experience	\$ -	\$ (118)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ 21,245
Assumption Changes	\$ -	\$ -
Investment Experience	\$ -	\$ -
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	3.620%	3.568%
Baseline Discount Rate and Trend Rates	\$ 1,977,155	\$ 2,042,575
Increase Discount Rate by One Percentage Point	\$ 1,693,906	\$ 1,754,669
Decrease Discount Rate by One Percentage Point	\$ 2,333,244	\$ 2,403,591
Increase Trend Rate by One Percentage Point	\$ 2,296,860	\$ 2,432,736
Decrease Trend Rate by One Percentage Point	\$ 1,727,067	\$ 1,737,692

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) EXEMPT/EXCLUDED/EXECUTIVE									
Valuation Date		6/30/2019							
Measurement Date		6/30/2019							
	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
Plan Year Beginning									
7/1/2016	\$ -	6.958847	\$ -	\$ (262,923)	6.958847	\$ (37,783)	\$ -	\$ 5.000000	\$ -
7/1/2017	\$ (147,520)	7.188319	\$ (20,522)	\$ (67,124)	7.188319	\$ (9,338)	\$ -	5.000000	\$ -
7/1/2018	\$ 24,633	7.271707	\$ 3,388	\$ (38,227)	7.271707	\$ (5,257)	\$ (147)	5.000000	\$ (29)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ 3,388	\$ (20,522)	\$ (17,134)	\$ -	\$ (52,378)	\$ (52,378)	\$ -	\$ (29)	\$ (29)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ 3,388	\$ (20,522)	\$ (17,134)	\$ -	\$ (52,378)	\$ (52,378)	\$ -	\$ (29)	\$ (29)
6/30/2021	\$ 3,388	\$ (20,522)	\$ (17,134)	\$ -	\$ (52,378)	\$ (52,378)	\$ -	\$ (29)	\$ (29)
6/30/2022	\$ 3,388	\$ (20,522)	\$ (17,134)	\$ -	\$ (52,378)	\$ (52,378)	\$ -	\$ (29)	\$ (29)
6/30/2023	\$ 3,388	\$ (20,522)	\$ (17,134)	\$ -	\$ (50,820)	\$ (50,820)	\$ -	\$ (31)	\$ (31)
6/30/2024	\$ 3,388	\$ (20,522)	\$ (17,134)	\$ -	\$ (14,595)	\$ (14,595)	\$ -	\$ -	\$ -
6/30/2025	\$ 3,388	\$ (3,866)	\$ (478)	\$ -	\$ (7,015)	\$ (7,015)	\$ -	\$ -	\$ -
6/30/2026	\$ 917	\$ -	\$ 917	\$ -	\$ (1,428)	\$ (1,428)	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ 21,245	\$ (106,476)	\$ (85,231)	\$ -	\$ (230,992)	\$ (230,992)	\$ -	\$ (118)	\$ (118)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ 41,767			\$ 14,151			\$ (118)

## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>OTHER</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	4,234	4,281
Retired Participants <sup>a</sup>	<u>13,156</u>	<u>12,204</u>
Total Participants	17,390	16,485
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 510,149	\$ 515,706
Retired Participants	<u>1,379,236</u>	<u>1,425,899</u>
Total Participants	\$ 1,889,385	\$ 1,941,605
Actuarial Accrued Liability		
Active Participants	\$ 326,574	\$ 328,168
Retired Participants	<u>1,379,236</u>	<u>1,425,899</u>
Total Participants	\$ 1,705,810	\$ 1,754,067
Actuarial Value of Assets	\$ -	\$ -
Unfunded Actuarial Accrued Liability	\$ 1,705,810	\$ 1,754,067
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 20,483	\$ 20,836
Administrative Expenses	339	358
Amortization of UAAL	<u>156,471</u>	<u>170,200</u>
Total ADC	\$ 177,293	\$ 191,394
Estimated Member Contributions	-	-
Net Employer ADC	\$ 177,293	\$ 191,394
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 78,943	\$ 73,846
Part B Reimbursement	23,742	23,326
Dental Claims	<u>7,121</u>	<u>6,655</u>
Total	\$ 109,806	\$ 103,827
Employer Implicit Costs	<u>25,940</u>	<u>39,455</u>
Total Employer Costs	\$ 135,746	\$ 143,282
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 2,000	\$ 1,954
Dental Claims	<u>2,213</u>	<u>2,058</u>
Total	\$ 4,213	\$ 4,012
Total Claims Costs	\$ 139,959	\$ 147,294

<sup>a</sup>Retired participants with dental only coverage, 886 as of July 1, 2018, and 805 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
OTHER

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded N/A

FYE	Assets (bo)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eo)	Accrued Liability (eo)	Funded Ratio	Normal Cost
2019	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,754,067	0.0%	\$ 20,836
2020	-	-	-	-	-	-	1,746,591	0.0%	19,724
2021	-	-	-	-	-	-	1,736,263	0.0%	19,014
2022	-	-	-	-	-	-	1,722,700	0.0%	18,297
2023	-	-	-	-	-	-	1,706,706	0.0%	17,543
2024	-	-	-	-	-	-	1,688,767	0.0%	16,769
2025	-	-	-	-	-	-	1,669,531	0.0%	16,066
2026	-	-	-	-	-	-	1,649,735	0.0%	15,340
2027	-	-	-	-	-	-	1,630,133	0.0%	14,591
2028	-	-	-	-	-	-	1,610,788	0.0%	13,901
2029	-	-	-	-	-	-	1,591,510	0.0%	13,191
2030	-	-	-	-	-	-	1,572,048	0.0%	12,460
2031	-	-	-	-	-	-	1,552,133	0.0%	11,758
2032	-	-	-	-	-	-	1,531,525	0.0%	11,160
2033	-	-	-	-	-	-	1,510,475	0.0%	10,583
2034	-	-	-	-	-	-	1,489,027	0.0%	9,950
2035	-	-	-	-	-	-	1,466,841	0.0%	9,344
2036	-	-	-	-	-	-	1,443,935	0.0%	8,767
2037	-	-	-	-	-	-	1,420,266	0.0%	8,167
2038	-	-	-	-	-	-	1,395,945	0.0%	7,526
2039	-	-	-	-	-	-	1,370,881	0.0%	6,902
2040	-	-	-	-	-	-	1,345,034	0.0%	6,361
2041	-	-	-	-	-	-	1,318,578	0.0%	5,880
2042	-	-	-	-	-	-	1,291,828	0.0%	5,440
2043	-	-	-	-	-	-	1,265,072	0.0%	5,027
2044	-	-	-	-	-	-	1,238,100	0.0%	4,617
2045	-	-	-	-	-	-	1,210,819	0.0%	4,218
2046	-	-	-	-	-	-	1,183,320	0.0%	3,827
2047	-	-	-	-	-	-	1,155,559	0.0%	3,430
2048	-	-	-	-	-	-	1,127,273	0.0%	3,043
2049	-	-	-	-	-	-	1,098,306	0.0%	2,660
2050	-	-	-	-	-	-	1,068,624	0.0%	2,283
2051	-	-	-	-	-	-	1,038,158	0.0%	1,921
2052	-	-	-	-	-	-	1,006,908	0.0%	1,577
2053	-	-	-	-	-	-	974,842	0.0%	1,263
2054	-	-	-	-	-	-	942,058	0.0%	983
2055	-	-	-	-	-	-	908,962	0.0%	742
2056	-	-	-	-	-	-	875,700	0.0%	545
2057	-	-	-	-	-	-	842,649	0.0%	389



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM							
DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S)							
OTHER							
20-Year GO Municipal Bond Rate at June 30, 2019				3.130%			
Long-Term Investment Return				6.750%			
Year Plan is Fully Funded				N/A			
Single Equivalent Rate				3.130%			
Present Value of Benefits		\$		3,225,998		\$	
						3,225,998	
FYE	Net Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 143,282	3.130%	0.98471	\$ 141,091	3.130%	0.98471	\$ 141,091
2021	144,407	3.130%	0.95482	137,883	3.130%	0.95482	137,883
2022	146,130	3.130%	0.92584	135,294	3.130%	0.92584	135,294
2023	146,856	3.130%	0.89774	131,839	3.130%	0.89774	131,839
2024	146,917	3.130%	0.87050	127,890	3.130%	0.87050	127,890
2025	146,203	3.130%	0.84408	123,407	3.130%	0.84408	123,407
2026	144,763	3.130%	0.81846	118,482	3.130%	0.81846	118,482
2027	142,535	3.130%	0.79362	113,119	3.130%	0.79362	113,119
2028	140,234	3.130%	0.76953	107,915	3.130%	0.76953	107,915
2029	138,197	3.130%	0.74618	103,119	3.130%	0.74618	103,119
2030	136,383	3.130%	0.72353	98,678	3.130%	0.72353	98,678
2031	134,795	3.130%	0.70157	94,569	3.130%	0.70157	94,569
2032	133,444	3.130%	0.68028	90,779	3.130%	0.68028	90,779
2033	131,910	3.130%	0.65963	87,012	3.130%	0.65963	87,012
2034	130,326	3.130%	0.63961	83,358	3.130%	0.63961	83,358
2035	128,987	3.130%	0.62020	79,998	3.130%	0.62020	79,998
2036	127,610	3.130%	0.60138	76,742	3.130%	0.60138	76,742
2037	126,260	3.130%	0.58313	73,625	3.130%	0.58313	73,625
2038	124,727	3.130%	0.56543	70,524	3.130%	0.56543	70,524
2039	123,197	3.130%	0.54827	67,545	3.130%	0.54827	67,545
2040	121,676	3.130%	0.53163	64,686	3.130%	0.53163	64,686
2041	120,020	3.130%	0.51549	61,869	3.130%	0.51549	61,869
2042	118,081	3.130%	0.49985	59,022	3.130%	0.49985	59,022
2043	115,887	3.130%	0.48468	56,168	3.130%	0.48468	56,168
2044	113,924	3.130%	0.46997	53,540	3.130%	0.46997	53,540
2045	112,040	3.130%	0.45570	51,057	3.130%	0.45570	51,057
2046	110,059	3.130%	0.44187	48,632	3.130%	0.44187	48,632
2047	108,112	3.130%	0.42846	46,322	3.130%	0.42846	46,322
2048	106,400	3.130%	0.41546	44,205	3.130%	0.41546	44,205
2049	104,813	3.130%	0.40285	42,224	3.130%	0.40285	42,224
2050	103,218	3.130%	0.39062	40,319	3.130%	0.39062	40,319
2051	101,649	3.130%	0.37877	38,501	3.130%	0.37877	38,501
2052	100,045	3.130%	0.36727	36,744	3.130%	0.36727	36,744
2053	98,439	3.130%	0.35612	35,057	3.130%	0.35612	35,057
2054	96,716	3.130%	0.34532	33,397	3.130%	0.34532	33,397
2055	94,589	3.130%	0.33484	31,672	3.130%	0.33484	31,672
2056	92,339	3.130%	0.32467	29,980	3.130%	0.32467	29,980
2066	67,605	3.130%	0.23856	16,128	3.130%	0.23856	16,128
2076	46,594	3.130%	0.17529	8,167	3.130%	0.17529	8,167
2086	19,641	3.130%	0.12879	2,530	3.130%	0.12879	2,530
2096	2,471	3.130%	0.09463	234	3.130%	0.09463	234
2106	36	3.130%	0.06953	2	3.130%	0.06953	2
2116	-	3.130%	0.05109	-	3.130%	0.05109	-



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) OTHER			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 64,873	\$ 55,285	\$ 48,033
Interest on Total OPEB Liability	82,194	94,010	86,636
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(201,879)	52,984
Changes of Assumptions	(243,150)	(43,635)	111,835
Benefit Payments	(135,079)	(131,602)	(165,439)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (231,162)</b>	<b>\$ (227,821)</b>	<b>\$ 134,049</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 2,886,186</b>	<b>\$ 2,655,024</b>	<b>\$ 2,427,203</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 2,655,024</b>	<b>\$ 2,427,203</b>	<b>\$ 2,561,252</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 135,079	\$ 131,602	\$ 165,439
Employer Pre-Funding Contributions	-	-	-
Active Member Contributions	-	-	-
Net Investment Income	-	-	-
Benefit Payments	(135,079)	(131,602)	(165,439)
Administrative Expense	-	-	-
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 2,655,024</b>	<b>\$ 2,427,203</b>	<b>\$ 2,561,252</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.000%</b>	<b>0.000%</b>	<b>0.000%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 174,233</b>	<b>\$ 179,460</b>	<b>\$ 177,293</b>
<b>Employer Contribution</b>	<b>\$ 135,079</b>	<b>\$ 131,602</b>	<b>\$ 165,439</b>
<b>Percentage of ADC made by Employer</b>	<b>78%</b>	<b>73%</b>	<b>93%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (39,154)</b>	<b>\$ (47,858)</b>	<b>\$ (11,854)</b>
<b>Expected Return on Assets</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Investment (Gain)/Loss</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Average Expected Remaining Service</b>	<b>2.607026</b>	<b>2.749775</b>	<b>2.965309</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>2.850%</b>	<b>3.560%</b>	<b>3.620%</b>
<b>Blended Discount Rate End of Year</b>	<b>3.560%</b>	<b>3.620%</b>	<b>3.130%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>

## Individual Actuarial Valuation Results

GASB NOS. 74 AND 75 DISCLOSURES		
OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S)		
OTHER		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 55,285	\$ 48,033
Interest on the Total OPEB Liability	94,010	86,636
Current-Period Benefit Changes	-	-
Active Member Contributions	-	-
Projected Earnings on Plan Investments	-	-
Operating Expenses	-	-
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(73,417)	(55,549)
Recognition of Outflow/(Inflow) due to Assumption Changes	(109,136)	(34,771)
Recognition of Outflow/(Inflow) due to Investment Experience	-	-
<b>Net OPEB Expense</b>	<b>\$ (33,258)</b>	<b>\$ 44,349</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 2,655,024</b>	<b>\$ 2,427,203</b>
OPEB Expense	(33,258)	44,349
Employer Contributions	(131,602)	(165,439)
Change in Outflow/(Inflow) due to Non-investment Experience	(128,462)	108,533
Change in Outflow/(Inflow) due to Assumption Changes	65,501	146,606
Change in Outflow/(Inflow) due to Investment Experience	-	-
<b>Net OPEB Liability End of Year</b>	<b>\$ 2,427,203</b>	<b>\$ 2,561,252</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (128,462)	\$ (55,045)
Assumption Changes	\$ (84,382)	\$ (11,897)
Investment Experience	\$ -	\$ -
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ 35,116
Assumption Changes	\$ -	\$ 74,121
Investment Experience	\$ -	\$ -
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	3.620%	3.130%
Baseline Discount Rate and Trend Rates	\$ 2,427,203	\$ 2,561,252
Increase Discount Rate by One Percentage Point	\$ 2,166,118	\$ 2,282,730
Decrease Discount Rate by One Percentage Point	\$ 2,744,658	\$ 2,900,652
Increase Trend Rate by One Percentage Point	\$ 2,693,173	\$ 2,902,686
Decrease Trend Rate by One Percentage Point	\$ 2,209,310	\$ 2,283,935



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) OTHER									
Valuation Date		6/30/2019							
Measurement Date		6/30/2019							
	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
Plan Year Beginning									
7/1/2016	\$ -	2.607026	\$ -	\$ (243,150)	2.607026	\$ (93,267)	\$ -	\$ 5.000000	\$ -
7/1/2017	\$ (201,879)	2.749775	\$ (73,417)	\$ (43,635)	2.749775	\$ (15,869)	\$ -	5.000000	\$ -
7/1/2018	\$ 52,984	2.965309	\$ 17,868	\$ 111,835	2.965309	\$ 37,714	\$ -	5.000000	\$ -
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ 17,868	\$ (73,417)	\$ (55,549)	\$ 37,714	\$ (72,485)	\$ (34,771)	\$ -	\$ -	\$ -
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ 17,868	\$ (55,045)	\$ (37,177)	\$ 37,714	\$ (11,897)	\$ 25,817	\$ -	\$ -	\$ -
6/30/2021	\$ 17,248	-	\$ 17,248	\$ 36,407	-	\$ 36,407	\$ -	\$ -	\$ -
6/30/2022	\$ -	-	-	\$ -	-	-	\$ -	\$ -	\$ -
6/30/2023	\$ -	-	-	\$ -	-	-	\$ -	\$ -	\$ -
6/30/2024	\$ -	-	-	\$ -	-	-	\$ -	\$ -	\$ -
6/30/2025	\$ -	-	-	\$ -	-	-	\$ -	\$ -	\$ -
6/30/2026	\$ -	-	-	\$ -	-	-	\$ -	\$ -	\$ -
6/30/2027	\$ -	-	-	\$ -	-	-	\$ -	\$ -	\$ -
6/30/2028	\$ -	-	-	\$ -	-	-	\$ -	\$ -	\$ -
<b>Total</b>	\$ 35,116	\$ (55,045)	\$ (19,929)	\$ 74,121	\$ (11,897)	\$ 62,224	\$ -	\$ -	\$ -
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ 108,533			\$ 146,606			\$ -



## Individual Actuarial Valuation Results

<b>CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM</b> <b>FULL-FUNDING ACTUARIAL VALUATION (\$ IN 000'S)</b> <b>7.00% AT JULY 1, 2018 AND 6.75% AT JULY 1, 2019</b> <b>SERVICE EMPLOYEES INTERNATIONAL UNION (SEIU)</b>		
	<b>July 1, 2018</b>	<b>July 1, 2019</b>
Number of Participants Covered		
Active Participants	110,661	112,123
Retired Participants <sup>a</sup>	<u>67,663</u>	<u>70,106</u>
Total Participants	178,324	182,229
Actuarial Present Value of Projected Benefits		
Active Participants	\$ 13,307,829	\$ 13,333,227
Retired Participants	<u>10,469,062</u>	<u>11,447,335</u>
Total Participants	\$ 23,776,891	\$ 24,780,562
Actuarial Accrued Liability		
Active Participants	\$ 8,757,155	\$ 8,766,373
Retired Participants	<u>10,469,062</u>	<u>11,447,335</u>
Total Participants	\$ 19,226,217	\$ 20,213,708
Actuarial Value of Assets	\$ -	\$ 151,612
Unfunded Actuarial Accrued Liability	\$ 19,226,217	\$ 20,062,096
Net Employer ADC for FYE	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Normal Cost	\$ 490,997	\$ 488,072
Administrative Expenses	1,871	2,052
Amortization of UAAL	<u>1,104,677</u>	<u>1,175,638</u>
Total ADC	\$ 1,597,545	\$ 1,665,762
Estimated Member Contributions	<u>(61,609)</u>	<u>(122,531)</u>
Net Employer ADC	\$ 1,535,936	\$ 1,543,231
Expected Claim Costs for FYE <sup>b</sup>	<b>June 30, 2019</b>	<b>June 30, 2020</b>
Employer Explicit Costs		
Medical and Rx Claims	\$ 509,073	\$ 533,672
Part B Reimbursement	100,376	110,695
Dental Claims	<u>40,841</u>	<u>42,944</u>
Total	\$ 650,290	\$ 687,311
Employer Implicit Costs	<u>97,824</u>	<u>133,610</u>
Total Employer Costs	\$ 748,114	\$ 820,921
Retiree Share of Claim Costs		
Medical and Rx Claims	\$ 29,427	\$ 29,134
Dental Claims	<u>12,739</u>	<u>13,156</u>
Total	\$ 42,166	\$ 42,290
Total Claims Costs	\$ 790,280	\$ 863,211

<sup>a</sup>Retired participants with dental only coverage, 5,034 as of July 1, 2018, and 5,258 as of July 1, 2019, are excluded from the above counts but are reflected in the actuarial valuation.

<sup>b</sup>For purposes of financial reporting, employer explicit and implicit costs will be updated based on actual experience during each respective reporting period.



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM  
FULL-FUNDING PROJECTIONS BASED ON JULY 1, 2019, ACTUARIAL VALUATION (\$ IN 000'S)  
SERVICE EMPLOYEES INTERNATIONAL UNION (SEIU)

Fiscal Year Beginning 7/1/2019  
Long-term Asset Return 6.750%  
Discount Rate 6.750%  
Year Plan is Fully Funded 2049

FYE	Assets (boy)	Disbursements/ Benefits	Administrative Expenses	Pre-Fund Contribution	Investment Income	Assets (eoy)	Accrued Liability (eoy)	Funded Ratio	Normal Cost
2019	\$ -	\$ -	\$ 14	\$ 143,424	\$ 8,202	\$ 151,612	\$ 20,213,708	0.8%	\$ 488,072
2020	151,612	-	2,052	245,062	18,301	412,923	21,250,523	1.9%	471,971
2021	412,923	-	2,241	355,659	39,605	805,946	22,262,136	3.6%	456,601
2022	805,946	-	2,452	459,052	69,560	1,332,106	23,238,625	5.7%	441,288
2023	1,332,106	-	2,663	443,951	104,568	1,877,962	24,177,243	7.8%	425,850
2024	1,877,962	-	2,876	428,726	140,900	2,444,712	25,074,595	9.7%	410,174
2025	2,444,712	-	3,085	413,259	178,635	3,033,521	25,929,618	11.7%	394,340
2026	3,033,521	-	3,286	397,626	217,854	3,645,715	26,742,310	13.6%	378,372
2027	3,645,715	-	3,475	381,847	258,647	4,282,734	27,514,515	15.6%	362,344
2028	4,282,734	-	3,659	366,002	301,114	4,946,191	28,245,954	17.5%	346,398
2029	4,946,191	-	3,846	350,244	345,368	5,637,957	28,932,391	19.5%	330,591
2030	5,637,957	-	4,034	334,625	391,538	6,360,086	29,570,708	21.5%	314,902
2031	6,360,086	-	4,220	319,123	439,760	7,114,749	30,158,157	23.6%	299,291
2032	7,114,749	-	4,407	303,698	490,182	7,904,222	30,691,607	25.8%	283,718
2033	7,904,222	-	4,593	288,311	542,954	8,730,894	31,167,484	28.0%	268,157
2034	8,730,894	-	4,780	272,937	598,238	9,597,289	31,581,632	30.4%	252,635
2035	9,597,289	-	4,965	257,600	656,204	10,506,128	31,930,722	32.9%	237,193
2036	10,506,128	-	5,146	242,339	717,038	11,460,359	32,211,861	35.6%	221,866
2037	11,460,359	-	5,320	227,187	780,940	12,463,166	32,423,709	38.4%	206,690
2038	12,463,166	-	5,486	212,176	848,126	13,517,982	32,565,246	41.5%	191,731
2039	13,517,982	-	5,646	197,377	918,829	14,628,542	32,634,078	44.8%	176,966
2040	14,628,542	-	5,800	182,767	993,302	15,798,811	32,628,130	48.4%	162,374
2041	15,798,811	-	5,947	168,321	1,071,811	17,032,996	32,545,735	52.3%	147,987
2042	17,032,996	-	6,084	154,070	1,154,640	18,335,622	32,385,749	56.6%	133,805
2043	18,335,622	-	6,212	140,017	1,242,097	19,711,524	32,146,959	61.3%	119,866
2044	19,711,524	-	6,327	126,192	1,334,508	21,165,897	31,829,792	66.5%	106,286
2045	21,165,897	-	6,424	112,711	1,432,227	22,704,411	31,436,356	72.2%	93,180
2046	22,704,411	-	6,505	99,685	1,535,641	24,333,232	30,968,882	78.6%	80,641
2047	24,333,232	-	6,567	87,208	1,645,171	26,059,044	30,431,012	85.6%	68,791
2048	26,059,044	-	6,609	75,401	1,761,269	27,889,105	29,826,728	93.5%	57,776
2049	27,889,105	412,880	6,629	64,405	1,870,726	29,404,727	29,161,654	100.8%	47,693
2050	29,404,727	2,649,702	6,624	-	1,896,632	28,645,033	28,443,080	100.7%	38,610
2051	28,645,033	2,639,142	6,598	-	1,845,704	27,844,997	27,677,243	100.6%	30,569
2052	27,844,997	2,618,791	6,547	-	1,792,379	27,012,038	26,872,177	100.5%	23,608
2053	27,012,038	2,588,555	6,471	-	1,737,161	26,154,173	26,036,597	100.5%	17,749
2054	26,154,173	2,551,424	6,379	-	1,680,491	25,276,861	25,176,744	100.4%	12,992
2055	25,276,861	2,506,298	6,266	-	1,622,774	24,387,071	24,300,418	100.4%	9,284
2056	24,387,071	2,455,159	6,138	-	1,564,415	23,490,189	23,413,835	100.3%	6,513
2057	23,490,189	2,400,305	6,001	-	1,505,701	22,589,584	22,521,143	100.3%	4,516



## Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM							
DEVELOPMENT OF GASB NOS. 74 AND 75 SINGLE EQUIVALENT DISCOUNT RATE (\$ IN 000'S)							
SERVICE EMPLOYEES INTERNATIONAL UNION (SEIU)							
20-Year GO Municipal Bond Rate at June 30, 2019		3.130%					
Long-Term Investment Return		6.750%					
Year Plan is Fully Funded		2049					
Single Equivalent Rate		3.604%					
Present Value of Benefits		\$ 45,319,178			\$ 45,319,178		
FYE	Net Employer Benefits	Cross-over Investment Return	Discount Factor	Discounted Benefit Payment	Single Equivalent Return	Discount Factor	Discounted Benefit Payment
2020	\$ 820,921	3.130%	0.98471	\$ 808,367	3.604%	0.98245	\$ 806,515
2021	896,418	3.130%	0.95482	855,920	3.604%	0.94827	850,051
2022	980,617	3.130%	0.92584	907,898	3.604%	0.91529	897,545
2023	1,065,222	3.130%	0.89774	956,296	3.604%	0.88344	941,065
2024	1,150,534	3.130%	0.87050	1,001,537	3.604%	0.85271	981,074
2025	1,233,911	3.130%	0.84408	1,041,517	3.604%	0.82305	1,015,568
2026	1,314,385	3.130%	0.81846	1,075,771	3.604%	0.79442	1,044,168
2027	1,390,171	3.130%	0.79362	1,103,267	3.604%	0.76678	1,065,954
2028	1,463,490	3.130%	0.76953	1,126,204	3.604%	0.74010	1,083,136
2029	1,538,381	3.130%	0.74618	1,147,906	3.604%	0.71436	1,098,955
2030	1,613,454	3.130%	0.72353	1,167,385	3.604%	0.68951	1,112,487
2031	1,688,170	3.130%	0.70157	1,184,373	3.604%	0.66552	1,123,511
2032	1,762,698	3.130%	0.68028	1,199,127	3.604%	0.64237	1,132,301
2033	1,837,178	3.130%	0.65963	1,211,863	3.604%	0.62002	1,139,090
2034	1,911,930	3.130%	0.63961	1,222,895	3.604%	0.59845	1,144,198
2035	1,985,931	3.130%	0.62020	1,231,676	3.604%	0.57763	1,147,140
2036	2,058,544	3.130%	0.60138	1,237,962	3.604%	0.55754	1,147,717
2037	2,128,162	3.130%	0.58313	1,240,986	3.604%	0.53814	1,145,255
2038	2,194,376	3.130%	0.56543	1,240,761	3.604%	0.51942	1,139,807
2039	2,258,547	3.130%	0.54827	1,238,287	3.604%	0.50135	1,132,327
2040	2,320,183	3.130%	0.53163	1,233,472	3.604%	0.48391	1,122,762
2041	2,378,728	3.130%	0.51549	1,226,216	3.604%	0.46708	1,111,049
2042	2,433,583	3.130%	0.49985	1,216,419	3.604%	0.45083	1,097,128
2043	2,484,777	3.130%	0.48468	1,204,313	3.604%	0.43514	1,081,238
2044	2,530,649	3.130%	0.46997	1,189,321	3.604%	0.42001	1,062,890
2045	2,569,749	3.130%	0.45570	1,171,043	3.604%	0.40540	1,041,765
2046	2,602,176	3.130%	0.44187	1,149,830	3.604%	0.39129	1,018,213
2047	2,626,843	3.130%	0.42846	1,125,501	3.604%	0.37768	992,107
2048	2,643,760	3.130%	0.41546	1,098,371	3.604%	0.36454	963,761
2049	2,651,764	3.130%	0.40285	1,068,260	3.604%	0.35186	933,050
2050	2,649,702	6.750%	0.37738	999,933	3.604%	0.33962	899,891
2051	2,639,142	6.750%	0.35351	932,973	3.604%	0.32780	865,124
2052	2,618,791	6.750%	0.33116	867,240	3.604%	0.31640	828,589
2053	2,588,555	6.750%	0.31022	803,023	3.604%	0.30539	790,530
2054	2,551,424	6.750%	0.29060	741,456	3.604%	0.29477	752,084
2055	2,506,298	6.750%	0.27223	682,288	3.604%	0.28452	713,081
2056	2,455,159	6.750%	0.25502	626,104	3.604%	0.27462	674,231
2066	1,892,610	6.750%	0.13271	251,159	3.604%	0.19273	364,768
2076	1,130,583	6.750%	0.06906	78,075	3.604%	0.13526	152,928
2086	338,971	6.750%	0.03594	12,181	3.604%	0.09493	32,179
2096	26,598	6.750%	0.01870	497	3.604%	0.06663	1,772
2106	305	6.750%	0.00973	3	3.604%	0.04676	14
2116	5	6.750%	0.00506	-	3.604%	0.03282	

# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES CHANGE IN NET OPEB LIABILITY AND CONTRIBUTIONS MADE BY EMPLOYER (\$ IN 000'S) SERVICE EMPLOYEES INTERNATIONAL UNION (SEIU)			
Fiscal Year Ending	June 30, 2017	June 30, 2018	June 30, 2019
<b>Total OPEB Liability</b>			
Service Cost	\$ 1,378,943	\$ 1,200,926	\$ 1,078,364
Interest on Total OPEB Liability	1,134,584	1,275,886	1,201,673
Changes of Benefit Terms	-	-	-
Difference between Expected and Actual Experience	-	(2,703,574)	(525,007)
Changes of Assumptions	(3,327,962)	(1,136,147)	1,213,332
Benefit Payments	(700,957)	(821,018)	(856,494)
<b>Net Change in Total OPEB Liability</b>	<b>\$ (1,515,392)</b>	<b>\$ (2,183,927)</b>	<b>\$ 2,111,868</b>
<b>Total OPEB Liability - Beginning</b>	<b>\$ 33,184,807</b>	<b>\$ 31,669,415</b>	<b>\$ 29,485,488</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 31,669,415</b>	<b>\$ 29,485,488</b>	<b>\$ 31,597,356</b>
<b>Plan Fiduciary Net Position</b>			
Employer PayGO Contributions	\$ 700,957	\$ 821,018	\$ 856,494
Employer Pre-Funding Contributions	-	-	71,712
Active Member Contributions	-	-	71,712
Net Investment Income	-	-	8,202
Benefit Payments	(700,957)	(821,018)	(856,494)
Administrative Expense	-	-	(14)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 151,612</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 151,612</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>\$ 31,669,415</b>	<b>\$ 29,485,488</b>	<b>\$ 31,445,744</b>
<b>Plan Fiduciary Net Position as a Percentage Total OPEB Liability</b>	<b>0.000%</b>	<b>0.000%</b>	<b>0.480%</b>
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$ 1,569,195</b>	<b>\$ 1,616,271</b>	<b>\$ 1,525,833</b>
<b>Employer Contribution</b>	<b>\$ 700,957</b>	<b>\$ 821,018</b>	<b>\$ 928,206</b>
<b>Percentage of ADC made by Employer</b>	<b>45%</b>	<b>51%</b>	<b>61%</b>
<b>Contribution Excess/(Shortfall)</b>	<b>\$ (868,238)</b>	<b>\$ (795,253)</b>	<b>\$ (597,627)</b>
<b>Expected Return on Assets</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,934</b>
<b>Investment (Gain)/Loss</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ (3,268)</b>
<b>Average Expected Remaining Service</b>	<b>6.774713</b>	<b>7.091438</b>	<b>7.220061</b>
<b>Blended Discount Rate Beginning of Year</b>	<b>3.316%</b>	<b>3.930%</b>	<b>3.987%</b>
<b>Blended Discount Rate End of Year</b>	<b>3.930%</b>	<b>3.987%</b>	<b>3.604%</b>
<b>Long-term Expected Return on Assets</b>	<b>7.280%</b>	<b>7.000%</b>	<b>6.750%</b>





## Individual Actuarial Valuation Results

<b>GASB NOS. 74 AND 75 DISCLOSURES</b> <b>OPEB EXPENSES AND NET OPEB LIABILITY SENSITIVITY (\$ IN 000'S)</b> <b>SERVICE EMPLOYEES INTERNATIONAL UNION (SEIU)</b>		
Measured for the Plan's Fiscal Year Ending Applicable for the Sponsor's Fiscal Year Ending	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>OPEB Expense</b>		
Service Cost	\$ 1,200,926	\$ 1,078,364
Interest on the Total OPEB Liability	1,275,886	1,201,673
Current-Period Benefit Changes	-	-
Active Member Contributions	-	(71,712)
Projected Earnings on Plan Investments	-	(4,934)
Operating Expenses	-	14
Other Changes in Plan Fiduciary Net Position	-	-
Recognition of Outflow/(Inflow) due to Non-investment Experience	(384,183)	(456,898)
Recognition of Outflow/(Inflow) due to Assumption Changes	(651,448)	(483,397)
Recognition of Outflow/(Inflow) due to Investment Experience	-	(654)
<b>Net OPEB Expense</b>	<b>\$ 1,441,181</b>	<b>\$ 1,262,456</b>
<b>Reconciliation of Net OPEB Liability</b>		
<b>Net OPEB Liability Beginning of Year</b>	<b>\$ 31,669,415</b>	<b>\$ 29,485,488</b>
OPEB Expense	1,441,181	1,262,456
Employer Contributions	(821,018)	(928,206)
Change in Outflow/(Inflow) due to Non-investment Experience	(2,319,391)	(68,109)
Change in Outflow/(Inflow) due to Assumption Changes	(484,699)	1,696,729
Change in Outflow/(Inflow) due to Investment Experience	-	(2,614)
<b>Net OPEB Liability End of Year</b>	<b>\$ 29,485,488</b>	<b>\$ 31,445,744</b>
<b>Deferred (Inflows)</b>		
Non-investment Experience	\$ (2,319,391)	\$ (2,387,500)
Assumption Changes	\$ (3,321,427)	\$ (2,669,982)
Investment Experience	\$ -	\$ (2,614)
<b>Deferred Outflows</b>		
Non-investment Experience	\$ -	\$ -
Assumption Changes	\$ -	\$ 1,045,282
Investment Experience	\$ -	\$ -
<b>Net OPEB Liability Sensitivity</b>		
Baseline Discount Rate	3.987%	3.604%
Baseline Discount Rate and Trend Rates	\$ 29,485,488	\$ 31,445,744
Increase Discount Rate by One Percentage Point	\$ 25,317,045	\$ 26,978,518
Decrease Discount Rate by One Percentage Point	\$ 34,700,365	\$ 37,038,559
Increase Trend Rate by One Percentage Point	\$ 34,231,398	\$ 37,595,207
Decrease Trend Rate by One Percentage Point	\$ 25,769,081	\$ 26,649,969



# Individual Actuarial Valuation Results

CALIFORNIA STATE EMPLOYEES POSTRETIREMENT BENEFITS PROGRAM GASB NOS. 74 AND 75 DISCLOSURES DEFERRED INFLOWS AND OUTFLOWS (\$ IN 000'S) SERVICE EMPLOYEES INTERNATIONAL UNION (SEIU)									
Valuation Date	6/30/2019								
Measurement Date	6/30/2019								
	Non-Investment Experience			Assumption Changes			Investment Experience		
	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization	(Gain)/Loss	Amortization Factor	Initial Amortization
Plan Year Beginning									
7/1/2016	\$ -	6.774713	\$ -	\$ (3,327,962)	6.774713	\$ (491,233)	\$ -	\$ 5.000000	\$ -
7/1/2017	\$ (2,703,574)	7.037205	\$ (384,183)	\$ (1,136,147)	7.091438	\$ (160,214)	\$ -	5.000000	\$ -
7/1/2018	\$ (525,007)	7.220061	\$ (72,715)	\$ 1,213,332	7.220061	\$ 168,050	\$ (3,268)	5.000000	\$ (654)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Current Plan Year End	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net	Outflows	(Inflows)	Net
6/30/2019	\$ -	\$ (456,898)	\$ (456,898)	\$ 168,050	\$ (651,447)	\$ (483,397)	\$ -	\$ (654)	\$ (654)
Deferred Outflows/(Inflows) Recognized in OPEB Expense for Future Plan Years Ending									
6/30/2020	\$ -	\$ (456,898)	\$ (456,898)	\$ 168,050	\$ (651,447)	\$ (483,397)	\$ -	\$ (654)	\$ (654)
6/30/2021	\$ -	\$ (456,898)	\$ (456,898)	\$ 168,050	\$ (651,447)	\$ (483,397)	\$ -	\$ (654)	\$ (654)
6/30/2022	\$ -	\$ (456,898)	\$ (456,898)	\$ 168,050	\$ (651,447)	\$ (483,397)	\$ -	\$ (654)	\$ (654)
6/30/2023	\$ -	\$ (456,898)	\$ (456,898)	\$ 168,050	\$ (540,778)	\$ (372,728)	\$ -	\$ (652)	\$ (652)
6/30/2024	\$ -	\$ (456,898)	\$ (456,898)	\$ 168,050	\$ (160,214)	\$ 7,836	\$ -	\$ -	\$ -
6/30/2025	\$ -	\$ (87,008)	\$ (87,008)	\$ 168,050	\$ (14,649)	\$ 153,401	\$ -	\$ -	\$ -
6/30/2026	\$ -	\$ (16,002)	\$ (16,002)	\$ 36,982	\$ -	\$ 36,982	\$ -	\$ -	\$ -
6/30/2027	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$ -	\$ (2,387,500)	\$ (2,387,500)	\$ 1,045,282	\$ (2,669,982)	\$ (1,624,700)	\$ -	\$ (2,614)	\$ (2,614)
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2019			\$ (68,109)			\$ 1,696,729			\$ (2,614)

